How Can Intelligent Automation Transform Your Financial Management?

by Bryan Eckle and Ken Ganatra

This article centers on an emerging transformation enabler called "intelligent automation (IA)." We will define IA and show how it can transform financial management within your organization.

What if you could leverage the vast store of information in your financial, procurement, property, and help desk systems to automate future transactions? Herein lies the benefit of intelligent automation. IA goes beyond rigid business rule driven processing and allows you to make dynamic decisions based on the past. Let's explore how IA can transform your financial management organization, starting with what some automation leaders in the government have to say.

"Modern technologies in automation and artificial intelligence afford us the opportunity to move past industrial-age, bureaucratic business processes and realize not only cost savings, but also the opportunity to deliver better, faster, and more impactful support to the warfighter. Return on investment in this area will not only be measured in time and money, but also in the improved quality of public good the Department is able to provide to the U.S. taxpayer." – **Rachael Martin**, Intelligent Business Automation Program Lead, Joint Artificial Intelligence Commission

"Robotic process automation (RPA) is proven technology that is great for streamlining tedious, repetitive tasks and with its growing adoption across the Department of Defense (DoD), its benefits are now being felt across multiple business areas, including financial management. As adoption of RPA increases in DoD, our attention must expand to include non-standard/non-repetitive tasks and identifying where opportunities exist to leverage more cognitive technology, like AI and machine learning (ML), in conjunction with RPA to further support critical mission requirements and to create additional opportunity space for our workforce." – **Erica Thomas**, Office of Under Secretary of Defense (Comptroller), Data Transformation Office, RPA Program Manager.

Many organizations have been manually entering Military Interdepartmental Purchase Requests (MIPRs), accounts payable invoices, MIPR acceptances or other standard forms into their financial systems for many decades. You can use the patterns in that historical data to automate future transaction entries.

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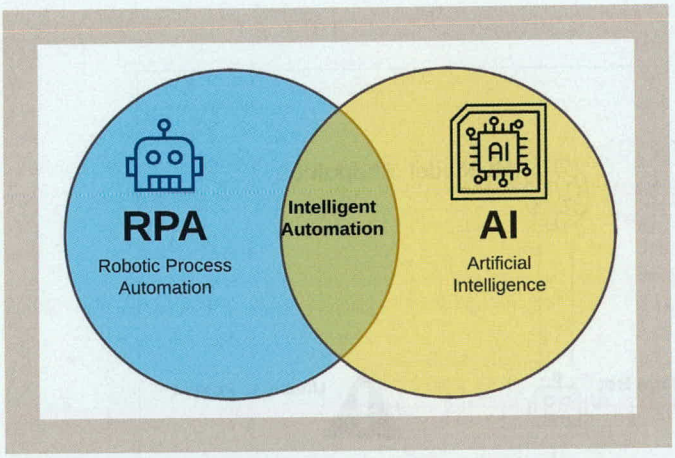
Making your RPA smarter

A combination of RPA with artificial intelligence (AI) is termed intelligent process automation, or intelligent automation. Within AI, a technique called machine learning (ML) can eliminate the need to write business rules for each new scenario. Think of the number of transactions in your enterprise resource planning (ERP), financial, procurement, entitlement, document, logistics, and other enterprise systems. These historical transactions were processed with a human touch – and tell a story if you know how to listen.



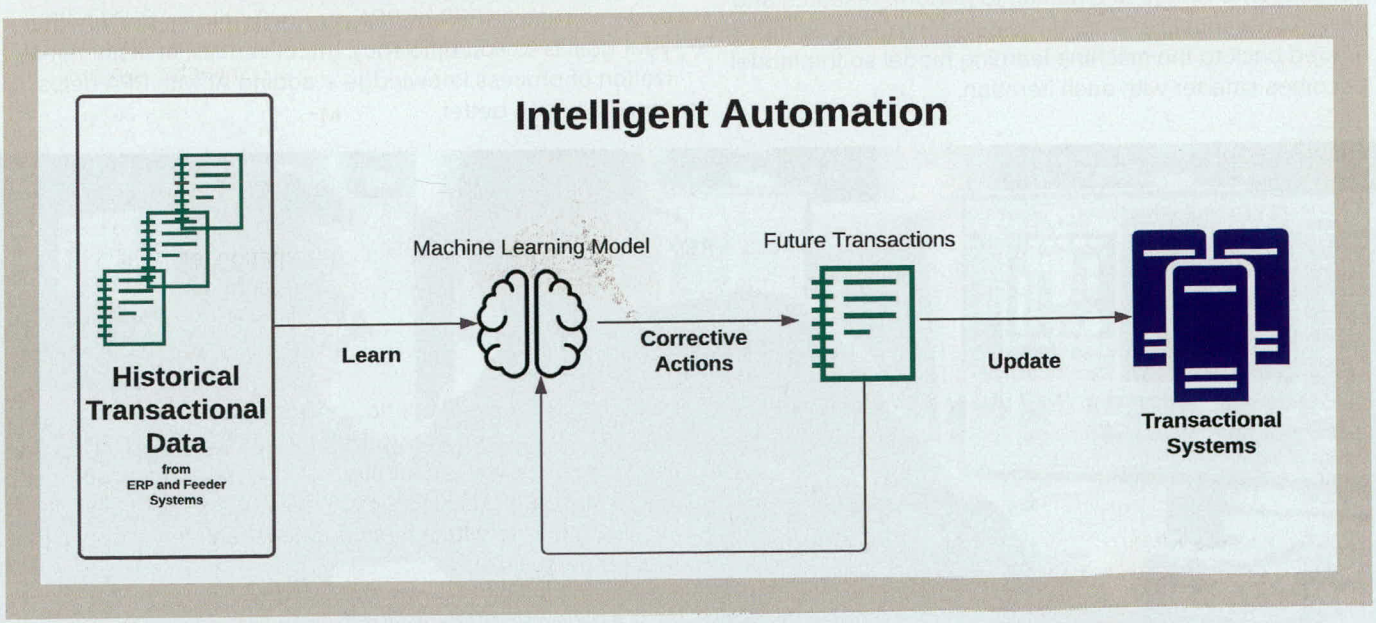
Let's get to the real point. As a DoD financial manager, how might this make your life easier? How does IA work? With an understanding of the data, you can create a data set that pairs the portable document format (PDF) form or scan with the information entered in the database. This data set (let's call it a training data set) can be used to build a machine learning model. The model is "trained" using your data and becomes very accurate in predicting what to enter in the future. Once you have a model that achieves an accuracy threshold, the model can be referenced by RPA or other applications to automate the entry.

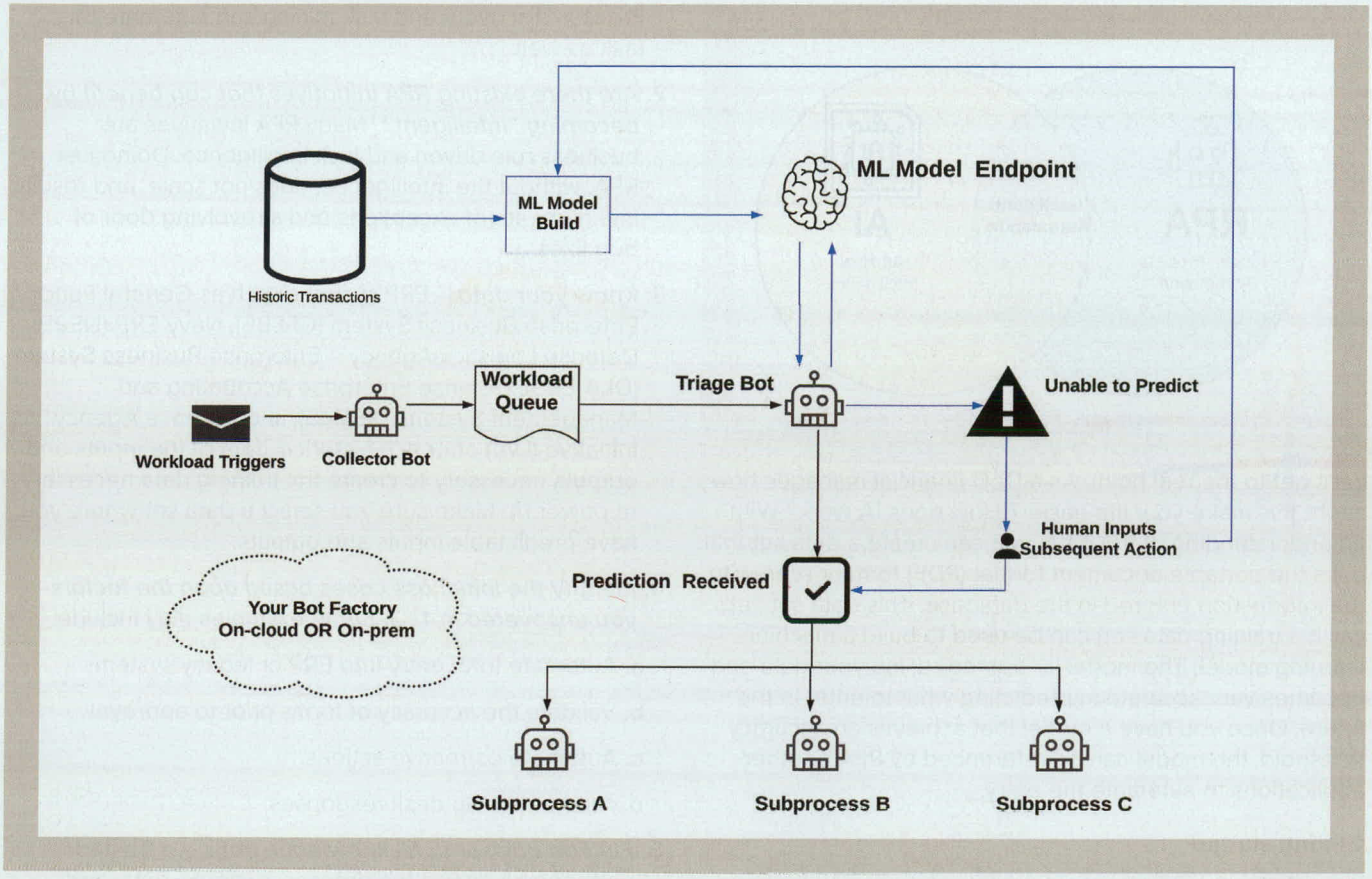
Getting started

How can I get started with transforming financial information by using IA? You can check your readiness to embark on the journey by reviewing the following criteria. After checking your readiness, the selection of your first use case can begin.

1. ***Know your processes*** – which processes are mundane, time consuming, and have historical data volume? Process discovery and task mining can automate this task as well.
2. ***Are there existing RPA initiatives that can benefit by becoming "Intelligent?"*** Many RPA initiatives are business rule driven and lack intelligence. Doing just RPA, without the intelligence, does not scale, and results in a high rate of exceptions and a revolving door of bug fixes.
3. ***Know your data*** – ERP systems such as General Fund Enterprise Business System (GFEBS), Navy ERP (NERP), Defense Logistics Agency – Enterprise Business System (DLA-EBS), Defense Enterprise Accounting and Management System (DEAMS), and Defense Agency Initiative (DAI) offer rich historical data of the inputs and outputs necessary to create the training data necessary to power IA. Make sure you select a data set where you have predictable inputs and outputs.
4. ***Identify the initial use cases based upon the factors you uncovered in 1 - 3.*** Some examples may include:
   a. Automate form entry into ERP or legacy systems
   b. Validate the accuracy of forms prior to approval
   c. Automate corrective actions
   d. Automate help desk responses
5. ***Find an advisor to fill knowledge gaps*** – a trusted partner who knows the process, systems, data, and technology to bring your vision to reality.

Let's see how it works in action with help of a specific use case that involves reconciling transactions across two financial management systems. In the following diagram, blue lines show the addition of AI in a traditional RPA workflow. After a collector bot receives a trigger, the

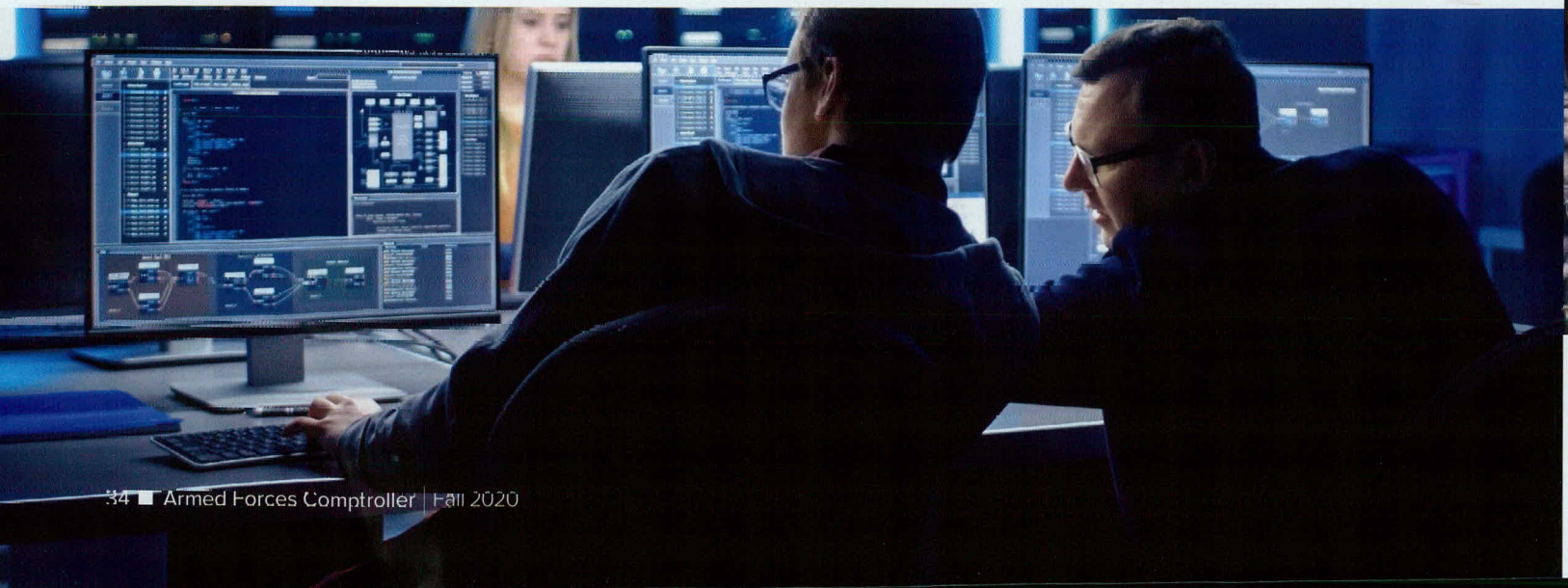




workload is typically staged into work queues. The triage bot retrieves work items from the queue and is in charge of routing the workflow. It queries the machine learning model for deciding the right course of action for subject transaction. Based on the prediction received, the triage bot can route to the appropriate process chain. If the model is unable to make a prediction with a high confidence level, the transaction is routed to a human to perform research and decide on a course of action. The decisions made by humans are fed back to the machine learning model so the model becomes smarter with each iteration.

Summary

A range of possibilities exists for making your transactional enterprise system smarter by using artificial intelligence. This includes machine learning models trained by you on your own historical data. AI can be integrated into your existing systems directly or by use of RPA. Introduction of AI has a potential of significantly boosting your enterprise systems such as ERP or RPA programs. No matter whether your goal is to add efficiency, effectiveness, or institutionalization of process knowledge – adding AI with RPA helps you do it even better.



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