INTELLIGENT AUTOMATION

In the last 10 years, automation technologies have evolved dramatically to become what we know today as Intelligent Automation. Desktop Automation—software that supports human actions by automating repetitive tasks on a local machine— was the first iteration, later evolving to Robotic Process Automation (RPA)—software that mimics human actions by automating tasks performed by humans seamlessly across various applications and systems.

EVERYTHING YOU NEED TO KNOW

Today, Intelligent Automation, built on the foundation of its predecessors, leverages traditional RPA technology and combines it with digitization and artificial intelligence to augment human intelligence and expand the realm of possibility.

Intelligent Automation can be a difficult topic to wrap one's head around, but like a lot of things, future success starts with solid fundamentals. And if you're looking to learn, you've come to the right place.

What are the core components of Intelligent Automation?

Intelligent automation is the intersect of Digitization, RPA and AI. Below are some basic definitions of key intelligent automation terms.

Digitization

Digitization is the process of converting manual and paperbased elements of a process into digital information.

Robotic Process Automation (RPA)

software that mimics human actions by automating tasks performed by humans seamlessly acraoss various applications and systems.

· Artificial Intelligence (AI)

Artificial intelligence (AI) is the theory and area of computer science that develops systems designed to perform tasks that normally require human intelligence. With AI, machines are gaining the ability to understand language (e.g. natural language processing), see (e.g. machine vision), and make informed decisions (e.g. cognitive computing). Some of the AI capabilities used in intelligent automation include:

OCR - Optical Character Recognition (OCR) is the use of technology to recognize printed or handwritten text inside digital images of physical documents, such as a scan of a mortgage application. OCR examines the text of a document and translates the characters into code that can be used for data processing. OCR is sometimes also referred to as text recognition.¹

WEBFORMS - Webform, web form or HTML form on a web page allows a user to enter data that is sent to a server for processing.

Forms can resemble paper or database forms because web users fill out the forms using checkboxes, radio buttons, or text fields.

NATURAL LANGUAGE

PROCESSING - Natural language processing (NLP) is the ability of a computer system to understand, interpret, and generate written and spoken language.

CHATBOTS, IVAs, & CONVERSATIONAL AI

These are systems that can interpret voice and text in free form (chat) to respond with standard predefined answers. A simple example is the customer service function where a chatbot could respond to queries. These chatbots can continuously learn and build vocabulary to interpret the unstructured information being directed to them.

NEIIRAI NETWORKS

- Artificial Neural
Networks are a specific
model of machine learning that
mimics human learning patterns.
These networks are made up of
units (neurons) that are grouped
in layers. The more layers there
are, the more complicated
problems the network can work
through. This neural system for
processing information is what
powers complicated machine
learning processes, like deep
learning.

MACHINE LEARNING

- Machine learning is the area of AI that allows computer systems to consume large data sets, discover patterns, and learn to perform specific tasks without being explicitly programmed to perform those tasks.

What is Intelligent Automation (IA)?

Intelligent Automation refers to a goal in the automation journey that can be achieved through leveraging the following three components:

Data capture/
digitization
technologies
(such as OCR)

Task automation (such as RPA & RDA)

3.

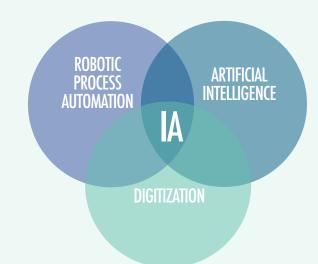
And Artificial Intelligence technologies, i.e. the combination of machine learning, neural networks, natural language processing & conversational AI.

How does IA work?

Intelligent Automation is the combination of RPA with Digitization, and subsects of Artificial Intelligence including: Machine Learning, Natural Language Processing, Neural Networks, etc.

Intelligent Automation is best suited for processes that demand human judgment, intuition, creativity & problem-solving skills

Intelligent Automation allows the user to leverage "learning" algorithms and models that can be trained and fine-tuned to improve task performance over time.



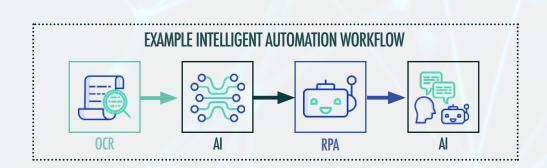
Where is IA applicable?

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For example, in the workflow below we see how intelligent automation can be leveraged to automate an entire business area, where in the past only a single process would be within the automation scope.



That's a Wrap

There's a lot of information to process in this infographic, and you may still have questions about how intelligent automation will impact your industry, if so, please contact us. The Burnie Group can help you set the right strategy and build the right foundation to begin your intelligent automation journey.

You can also find additional resources below:

Intelligent Automation: burniegroup.com/intelligent-automation/
RPA: burniegroup.com/technology-operations/robotic-process-automation/
Artificial Intelligence: burniegroup.com/technology-operations/artificial-intelligence/