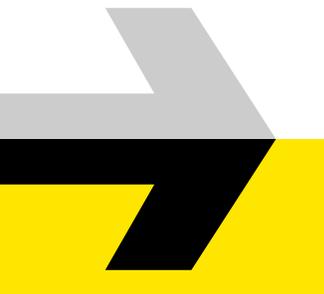


# **BUSINESS PROCESS AUTOMATION: A GLOSSARY OF TERMS**



When it comes to automating key business processes, there are acronyms to describe practically every aspect: AI, ML, RPA, OCR, IDP, and the list goes on. Other aspects of these terms - accuracy, throughput - are understood and used differently by stakeholders across an organization.

As part of a new wave of automation solutions that are challenging legacy technology and some of the old definitions the industry has used for decades, Hyperscience approaches business process automation with a different lens. A focus on *meaningful* automation is what sets the Hyperscience Intelligent Document Processing [IDP] solution and platform apart from other vendors. **How can a fresh perspective on automation change the way we think about traditional legacy solutions and the common terms they employ?**

This glossary takes some common industry terms and updates them with Hyperscience definitions and perspectives from team experts in order to help you more meaningfully introduce automation into your organization.

# A

# Artificial Intelligence [AI]

## Noun

A wide ranging branch of computer science concerned with building intelligent machines capable of performing tasks that have traditionally required humans.

*Companies are able to extract information from W-9 forms automatically using artificial intelligence.*

AI is an interdisciplinary science with multiple approaches, but advancements in Machine and Deep Learning are creating a paradigm shift. Automation and [Artificial Intelligence \[AI\]](#) are intertwined.

More practically, as Bernard Marr, a strategic technology advisor to governments and businesses says, “Generally, people invest in AI development for one of these three objectives:

1. Build systems that think exactly like humans do [“strong AI”]
2. Just get systems to work without figuring out how human reasoning works [“weak AI”]
3. Use human reasoning as a model but not necessarily the end goal.”<sup>2</sup>

As AI continues to advance, and computers and software become more intelligent, they’re able to execute and imitate more and more complex - and human-like - functions, delivering greater automation benefits.



# Automation

## Noun

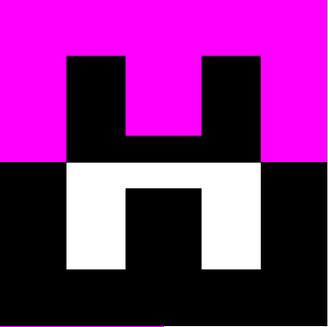
The technique or labor-saving technologies that reduce human intervention.

[TD Ameritrade achieved 98% automation for its institutional and retail inbound mail processes.](#)

Hyperscience considers an output 100% automated if there is zero human involvement in processing the input.

By automating tasks and also automating the identification of tasks that need human intervention, Hyperscience provides higher quality data. This prevents the usual [automation and accuracy tradeoff](#) of legacy approaches like Optical Character Recognition products.

For Hyperscience clients, accuracy makes all the difference, which is why our solution is designed to interface with humans while still achieving high levels of accuracy, automation, and efficiency - we refer to this as meaningful automation.



# Hyperautomation

## Noun

The augmentation of automation technologies to increase the end-to-end output of a process.

[By leveraging hyperautomation technologies, one Fortune 500 insurer was able to identify and extract data from multi-page, hand-annotated invoices with variables such as fax marks obstructing the document clarity.](#)

Hyperautomation is the application of disruptive technologies such as Robotic Process Automation [RPA], Artificial Intelligence [AI], Machine Learning [ML], and Intelligent Document Processing [IDP], process mining and more, that when combined, transform business processes and improve overall quality of work.

By combining hyperautomation technologies with redesigned operational processes, companies will be poised to reach the benefits of time and cost that automation was originally set out to do.

With Hyperscience, companies can implement a platform that fits into their tech stack and works with a variety of tools that may already be in place.

# Intelligent Automation [IA]

## Noun

Merging Artificial Intelligence [AI] and Machine Learning [ML] automation technologies to create rapid end-to-end business process automation; accelerating digital transformation and increasing speed and accuracy.

*[By leveraging intelligent automation, a leading financial advisor group was able to reduce its document processing time 60%.](#)*

Intelligent automation [IA] is all about synthesizing various automation technologies and software in order to streamline traditional business processes end to end, improve customer experience and boost employee productivity and satisfaction.

A Deloitte Insights article says intelligent automation “applications range from the routine to the revolutionary: from collecting, analyzing, and making decisions about textual information . . . to guiding advanced robots. It is already helping companies transcend conventional performance tradeoffs to achieve unprecedented levels of efficiency and quality.”<sup>6</sup>

Intelligent automation is often used by those in the industry to distinguish from traditional automation, which is the automation of any type of repetitive task.

# Intelligent Document Processing [IDP]

## Noun

An automation solution that extracts, organizes, and processes data and other information for downstream processing.

*Leveraging IDP software to upgrade its previously manual workflows, [one investment management company](#) was able to reduce processing times by 60%.*

[Everest Group](#) defines Intelligent Document Processing [IDP] as "any software product or solution capturing data from documents (including email, text, PDF and scanned documents), categorizing it and then extracting the relevant data for further processing using AI technologies such as computer vision, OCR, NLP and machine/deep learning."<sup>7</sup>

The Hyperscience IDP offering automates up to 95% of data capture, classification and extraction with >99% accuracy, turning low-resolution images, PDFs and messy handwritten forms into machine-readable data that can be used for faster, more reliable downstream processing and decision-making.

The Hyperscience difference is to reach high levels of accuracy and automation because of how the solution improves over time.

→ **Download our guide to choosing the right Intelligent Document Processing solution for your business.**

[Download the E-Book Today](#)

# Machine Learning [ML]

## Noun

The algorithmic process that allows automated systems to learn and improve from experience.

*Thanks to Machine Learning, the solution continues to learn on an organization's data to drive lower error rates and higher automation.*

Whereas older technologies rely on explicit rules, the beauty of [Machine Learning](#) is that it trains on real-world data and continues to learn and adjust itself in response to the data it's exposed to. Machine Learning has unlocked capabilities that weren't possible before, taking us from a place where we couldn't possibly write software to read and account for all the imperfection and variations that accompany real-world documents - including the diverse document types and text inputs it contains - to one that can train and teach itself.

There are two steps to Machine Learning: Collecting and training the data, and then “operationalizing the Machine Learning, such as by using it to help provide insights or as part of a product.”<sup>8</sup>

[Hyperscience takes a novel, ML-driven approach to business process automation](#), enabling customers to leverage the continuous improvement power of ML without data scientists or engineers. This cutting-edge approach enables greater automation and accuracy with less human intervention.



# Optical Character Recognition [OCR]

## Noun

Automation software that extracts an image and converts it to machine-readable text.

*With OCR tech, companies can convert computer typed W-2 forms into editable and searchable data.*

[Optical Character Recognition](#) [OCR] recognizes the text inside images and converts it into readable data, character-by-character. There are two types of algorithms that OCR software can use to recognize text within an image: **pattern recognition** software looks for patterns based on examples of text it has already been given; **feature detection** software relies on a given set of rules for each character that enables it to recognize those characters in a document.

While OCR solutions require certain conditions in order to deliver accurate results, an IDP solution can handle even the worst [document imperfections](#) - from poorly scanned documents to hard-to-read handwriting to half machine typed and half handwritten entries. OCR software only reads what's within the box, whereas the Hyperscience IDP offering uses proprietary ML techniques to know the difference between what is a response and what should be "dropped out" [like a field name] and transcribe low-quality documents.





# Robotic Process Automation [RPA]

## Noun

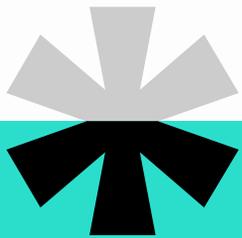
A digital enablement technology that predominantly creates scripts that automate routine, predictable data transcription work based on structured inputs.

*RPA works well for repetitive, rules-based tasks, such as copying data from a spreadsheet and pasting it into the correct database or dragging and dropping files into a folder.*

[Robotic Process Automation \[RPA\]](#) works well for rules-based processes with structured data inputs.

Structured data, however, is often a miniscule portion of an enterprise's data stack; the vast majority of information that enterprises need for business operations resides in documents with unstructured data that are inaccessible to RPA solutions, such as images and PDFs.

That is where models-based techniques, like machine learning and other forms of AI, which train on real-world data and continue to learn and adjust in response to ongoing information, add tremendous value in document processing. They accomplish that by unlocking and lifting data contained in various files and document types with a high degree of accuracy and scalability.



Start operating more efficiently and break away from your competition with Hyperscience's cutting-edge approach to automation.

[Contact Us to Get on the Right Path Today](#)