Intelligent Automation Definitions

Term / Acronym	Definition	Source	Reference Link
Artificial Intelligence (AI)	A branch of computer science that aims to create intelligent machines or programs or a collection of technologies with the ability to learn and reason like humans and apply advanced analysis and logic-based techniques, including machine learning, to interpret events, support and automate decisions, and take action. A component of IA.	Gartner	https://www.gartner.com/en/information-technology/glossary/artificial-intelligence
Blockchain	Blockchain is a record-keeping technology designed to make it impossible to hack the system or forge the data stored on it, thereby making it secure and immutable.	TechTarget	https://www.techtarget.com/searchcio/definition/blockchain
Business Process Management (BPM) automation technology	An IA technology that uses various methods to discover, model, analyze, measure, improve and optimize repeatable business processes. A business process coordinates the behavior of people, systems, information and things to produce business outcomes in support of a business strategy. Processes can be structured and repeatable, or unstructured and variable. Though not required, technologies are often used with BPM. BPM is key to align IT/OT investments to business strategy.	Gartner	https://www.gartner.com/en/information-technology/glossary/business-process-management-bpm
Data Analytics	An IA technology that enables organizations to analyze all their data (real-time, historical, unstructured, structured, qualitative) to identify patterns and generate insights to inform and, in some cases, automate decisions, connecting intelligence and action.	TIBCO	https://www.tibco.com/reference-center/what-is-data-analytics
Data Visualization	An IA technology that includes the graphical representation of data to help people understand context and significance. Interactive data visualization enables companies to drill down to explore details, identify patterns and outliers, and change which data is processed and/or excluded.	TIBCO	https://www.tibco.com/reference-center/guide-to-data-visualization
Deep Learning	A subset of ML that leverages multi-layered modeling approaches to mimic how the human brain processes information. Artificial neural networks adapt and learn from vast amounts of data.	Gartner	
Intelligent Automation (IA)	The use of a collection of automation technologies, e.g., artificial intelligence (AI), business process management (BPM), and robotic process automation (RPA), to streamline and scale decision-making across organizations. Intelligent automation simplifies processes, frees up resources and improves operational efficiencies, and it has a variety of applications. For example, a pharmaceutical or life sciences company may use intelligent automation to reduce costs and gain resource efficiencies where repetitive processes exist.	IBM	https://www.ibm.com/cloud/learn/intelligent-automation
Intelligent Character Recognition (ICR)	An IA technology where the computer translates manually entered text characters into machine-readable characters.	TechTarget	https://whatis.techtarget.com/definition/intelligent-character-recognition-ICR
Internet of Things (IoT)	The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.	TechTarget	https://www.techtarget.com/iotagenda/definition/Internet-of-Things-IoT

Intelligent Automation Definitions

Term / Acronym	Definition	Source	Reference Link
Low-code Application Platforms	An IA technology that is a software development approach that requires little to no coding to build applications and processes. A low-code development platform uses visual interfaces with simple logic and drag-and-drop features instead of extensive coding languages. BPM and workflow automation tools are types of low-code application platforms.	Creatio	https://www.creatio.com/page/low-code
Machine Learning (ML)	A subset of AI that includes algorithms with the ability to learn without being explicitly programmed. An IA technology. Advanced machine learning algorithms are composed of many technologies (such as deep learning, neural networks and natural language processing), used in unsupervised and supervised learning, that operate guided by lessons from existing information.	Gartner	https://www.gartner.com/en/information-technology/glossary/machine-learning
Natural Language Generation (NLG)	An IA technology and type of NLP. The use of artificial intelligence (AI) programming to produce written or spoken narratives from a data set. NLG is related to human-to-machine and machine-to-human interaction, including computational linguistics, natural language processing (NLP) and natural language understanding (NLU).	TechTarget	https://www.techtarget.com/searchenterpriseai/definition/natural-language-generation-NLG
Natural Language Processing (NLP)	An IA technology that involves the ability to turn text or audio speech into encoded, structured information, based on an appropriate ontology. The structured data may be used simply to classify a document, as in "this report describes a laparoscopic cholecystectomy," or it may be used to identify findings, procedures, medications, allergies and participants.	Gartner	https://www.gartner.com/en/information-technology/glossary/natural-language-processing-nlp
Predictive Analytics	An IA technology and a branch of advanced analytics, it is the method or technique of using data to model forecasts about the likelihood of potential future outcomes in your business. Predictive analytics uses historical and current data combined with techniques such as advanced statistics and machine learning to model unknown future events. It is generally defined as learning from past collective experience of an organization to make better decisions in the future using data science and machine learning.	TIBCO	https://www.tibco.com/reference-center/what-is-predictive-analytics
Robotic Process Automation (RPA)	An IA technology also known as software robotics, that uses automation technologies to mimic back-office tasks of human workers, such as extracting data, filling in forms, moving files, etc. It combines APIs and user interface (UI) interactions to integrate and perform repetitive tasks between enterprise and productivity applications. By deploying scripts which emulate human processes, RPA tools complete autonomous execution of various activities and transactions across unrelated software systems. This form of automation uses rule-based software to perform business process activities at a high-volume, freeing up human resources to prioritize more complex tasks. RPA enables decision makers to accelerate their digital transformation efforts and generate a higher return on investment (ROI) from their staff.	IBM	https://www.ibm.com/cloud/learn/rpa