

Artificial Neural Network	ANN	See "Neural Network"
Andon		Andon is a manufacturing term referring to a system to notify management, maintenance, and other workers of a quality or process problem. The centerpiece is a device incorporating signal lights to indicate which workstation has the problem. The alert can be activated manually by a worker using a pullcord or button, or may be activated automatically by the production equipment itself.
Automation		The use of electronics and computers to control systems and machinery with limited or no human intervention.
Amazon Web Services	AWS	Amazon Web Services (AWS) is a subsidiary of Amazon.com that provides on-demand cloud computing platforms to individuals, companies and governments, on a paid subscription basis. The technology allows subscribers to have at their disposal a virtual cluster of computers, available all the time, through the Internet.
Bandwidth		The maximum data flow rate for a network dictated by the slowest link in the entire communication chain.
Barcode	1D	A barcode (also bar code) is an optical, machine-readable, representation of data; the data usually describes something about the object that carries the barcode. Traditional barcodes systematically represent data by varying the widths and spacings of parallel lines, and may be referred to as linear or one-dimensional (1D).

Barcode 2D	Aztec Code	
Barcode 2D	QR Code	
Big Data		<p>Big data is a term used to refer to data sets that are too large or complex for traditional data-processing application software to adequately deal with. Data with many cases offer greater statistical power, while data with higher complexity (more attributes) may lead to a higher false discovery rate. Big data challenges include capturing data, data storage, <u>data analysis</u>, search, sharing, transfer, visualization, querying, updating, information privacy and data source. Big data was originally associated with three key concepts: <i>volume</i>, <i>variety</i>, and <i>velocity</i>. Other concepts later attributed with big data are <i>veracity</i> (<i>i.e.</i>, <i>how much noise is in the data</i>) and <i>value</i>.</p>

Broker (Aka "Server")		The server in the middle who manages incoming and outgoing data. This can be on a local device or managed cloud service.
Business Intelligence	BI	Type of management software used to retrieve, analyze, transform, and report data for business intelligence.
Business Process Management	BPM	Type of management software for oversight and control of business processes.
Client		See Publisher or Subscriber
Cloud Machine Interface Terminal	cMT	A device for communication between a human operator and a machine. In modern control systems this is typically some type of touchscreen graphical interface connected to the world wide web.
Cloud Service	Cloud	A cloud service is any service made available to users on demand via the Internet from a cloud computing provider's servers as opposed to being provided from a company's own on-premises servers.
Cloud Service Provider	CSP	A cloud service provider , is a company that offers some component of cloud computing -- typically infrastructure as a service (IaaS), software as a service (SaaS) or platform as a service (PaaS) -- to other businesses or individuals.
Computerized Maintenance Management System	CMMS	Type of management software that tracks and organizes customer information.

Controller		A component in an automation system that contains a program to process data inputs and outputs.
Customer Relationship Management	CRM	Type of management software that tracks and organizes customer information.
Data Mining	DM	The process of analyzing large collections of data to generate insights or define patterns that will improve the understanding of the system the data came from.
Data Platform		A centralized computing system for collecting, integrating, and managing large sets of data.
EasyAccess 2.0		EasyAccess 2.0 offers the ability to remotely monitor and control a Maple HMI and connected PLC from literally anywhere in the world. EasyAccess 2.0 integrates perfectly with a wide variety of displays including desktop PCs, laptops, tablets, and smart phones, making it easier than ever to connect to operational equipment in the field.
Edge Gateway	EG	In automation systems a gateway is a protocol translator. In the IIoT protocol translators are referred to as "Edge Gateways" because they are at the 'edge' of the widely distributed network of devices creating and consuming data.
Enterprise Application Software	EAS	Type of management software used to track an entire organization. Uses include billing, cataloging, security, customer relations, project management and human resources.

Enterprise Resource Planning	ERP	Enterprise resource planning (ERP) is the integrated management of core business processes, often in real-time and mediated by software and technology. ERP is usually referred to as a category of business-management software — typically a suite of integrated applications—that an organization can use to collect, store, manage, and interpret data from these many business activities.
Enterprise Quality Management Software	EQMS	Type of management software focused on quality and compliance across an entire enterprise.
Ethernet		Ethernet is a family of computer networking technologies commonly used in local area networks (LAN), and wide area networks (WAN). It was commercially introduced in 1980 and first standardized in 1983 as IEEE 802.3, and has since been refined to support higher bit rates and longer link distances. Over time, Ethernet has largely replaced competing wired LAN technologies such as Token Ring, FDDI and ARCNET.
EtherNet/IP		EtherNet/IP is an industrial network protocol that adapts the Common Industrial Protocol to standard Ethernet. EtherNet/IP is one of the leading industrial protocols in the United States and is widely used in a range of industries including factory, hybrid and process. The EtherNet/IP and CIP technologies are managed by ODVA, Inc., a global trade and standards development organization founded in 1995 with over 300 corporate members.
File Transfer Protocol	FTP	The File Transfer Protocol (FTP) is a standard network protocol used for the transfer of computer files between a client and server on a computer network.
Framebuffer	FB	A framebuffer is a portion of RAM containing a bitmap that drives a video display. It is a memory buffer containing a complete frame of data. This in-memory bitmap is converted into a video signal that can be displayed on a computer monitor.

High-Definition Multimedia Interface	HDMI	HDMI (High-Definition Multimedia Interface) is a proprietary audio/video interface for transmitting uncompressed video data and compressed or uncompressed digital audio data from an HDMI-compliant source device, such as a display controller, to a compatible computer monitor, video projector, digital television, or digital audio device.
Human Machine Control	HMC	The Human Machine Control combines an HMI and PLC into one unit. Utilized worldwide to employ diverse applications, an HMI + PLCs offers lower costs, save space, and feature options including: Serial and Ethernet communication, support for machine and process installations, and numerous I/O configurations.
Human Machine Interface	HMI	A device for communication between a human operator and a machine. In modern control systems this is typically some type of touchscreen graphical interface.
IBM Bluemix (Cloud)	IBM	A full-stack cloud platform that spans public, private and hybrid environments. Build with a robust suite of advanced data and AI tools, and draw on deep industry expertise to help you on your journey to the cloud.
Internet of Things	IoT	The Internet of things (IoT) is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect, collect and exchange data.
Industrial Internet		See "Industrial Internet of Things"
Industrial Internet of Things	IIoT	This is the interconnection of automated systems (operational technology) and information technology. A distributed network of devices generating, transmitting, and consuming data for status, analysis, or statistical purposes.

Industry 4.0		This is closely related to the Industrial Internet of Things and the term is often used interchangeably. Industry 4.0 is mostly used in Europe and is more focused on manufacturing.
Information Technology	IT	The network architecture, hardware and software, that allows communication and analysis of vast stores of data across globally distributed assets.
Internet		The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a <i>network of networks</i> that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.
Internet of Things	IoT	The consumer version of IIoT. A distributed network of devices generating, transmitting, and consuming data for status, analysis, and statistical purposes.
JavaScript Object Notation	JSON	In computing, JavaScript Object Notation is an open-standard file format that uses human-readable text to transmit data objects consisting of attribute–value pairs and array data types (or any other serializable value).
Local Area Network	LAN	A local area network (LAN) is a computer network that interconnects computers within a limited area such as a residence, school, laboratory, university campus or office building. See WAN

Media Access Control Address	MAC	A media access control address (MAC address) of a device is a unique identifier assigned to a network interface controller (NIC) for communications at the data link layer of a network segment. MAC addresses are used as a network address for most IEEE 802 network technologies, including Ethernet and Wi-Fi. In this context, MAC addresses are used in the medium access control protocol sublayer.
Manufacturing Execution System	MES	Type of management software used to track and document the transformation of raw materials into finished goods in real time.
Material Requirements Planning	MRP	Type of management software used in production planning, scheduling, and inventory control systems to manage manufacturing processes.
Message Oriented Middleware	MOM	A software or hardware infrastructure that prioritizes sending and receiving messages between distributed systems. MQTT is a MOM protocol.
Message Queuing Telemetry Transport	MQTT	A communication protocol quickly becoming the protocol of choice for the IIoT. ISO standard (ISO/IEC PRF 20922) publish-subscribe-based messaging protocol. It works on top of the TCP/IP protocol. It is designed for connections with remote locations where a "small code footprint" is required or the network bandwidth is limited. The publish-subscribe messaging pattern requires a message broker.

Microsoft Azure		Microsoft Azure (formerly Windows Azure) is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through a global network of Microsoft-managed data centers. It provides software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) and supports many different programming languages, tools and frameworks, including both Microsoft-specific and third-party software and systems.
Modbus TCP IP		Modbus TCP/IP (also Modbus-TCP) is simply the Modbus RTU protocol with a TCP interface that runs on Ethernet. The Modbus messaging structure is the application protocol that defines the rules for organizing and interpreting the data independent of the data transmission medium.
MySQL Database	MySQL	MySQL is the world's most popular open source database. With its proven performance, reliability, and ease-of-use, MySQL has become the leading database choice for web-based applications. Additionally, it is an extremely popular choice as embedded database, distributed by thousands of software vendor- and OEMs.
Neural Network (Aka ANN)	NN	A type of computer program modeled after biological neural networks, such as the brain, that is capable of learning. The programs ability to adapt allows it to process very large data sets and recognize emerging patterns in the data.
Open DeviceNet Vendors Association	ODVA	ODVA, Inc. (formerly Open DeviceNet Vendors Association, Inc.) was founded in 1995 and is a global trade and standard development organization whose members are suppliers of devices for industrial automation application. To qualify for membership in ODVA, applicants must be an entity that makes and sells products using ODVA technologies.

Online Analytical Processing	OLAP	Type of management software used to analyze the relationships between data sets.
Open Machine Interface	OMI	An HMI that runs on an open software platform allowing for more configuration and programming options.
Open Platform Communication	OPC	Open Platform Communications (OPC) is a series of standards and specifications for industrial telecommunication. An industrial automation industry task force. ..
OPC server		The OPC server is a software program that converts the hardware communication protocol used by a PLC into the OPC protocol .
OPC-UA		OPC Unified Architecture (OPC UA) is a machine to machine communication protocol for industrial automation developed by the OPC Foundation .
Operational Technology	OT	This refers to the physical devices interacting with the real world such as sensors and actuators deployed on the factory floor and the local automation components that control them.
Operator Interface Terminal	OIT	Operator interface terminals (OITs) are surely windows to the process—continuous, batch, or discrete. OITs are have found their way into a wide variety of industries in roles varying all out large flat-panel-based color interface terminal, to simple monochromatic alphanumeric that have been designed to replace simple pushbutton/warning light-based operator interface panels.

Proportional-integral-Derivative control	PID	A proportional–integral–derivative controller (PID controller or three term controller) is a control loop feedback mechanism widely used in industrial control systems and a variety of other applications requiring continuously modulated control. A PID controller continuously calculates an <i>error value</i> as the difference between a desired setpoint (SP) and a measured process variable (PV) and applies a correction based on proportional, integral, and derivative terms (denoted <i>P</i> , <i>I</i> , and <i>D</i> respectively), hence the name.
Product Lifecycle Management	PLM	Type of management software for managing the entire lifecycle of a product from concept, through design, manufacture, use, and disposal.
Protocol		In control systems, protocol is the language the components use to communicate. Examples protocols include Profinet and Modbus.
Publisher (Aka "Client")		Any device creating data for transmission to a broker such as sensors, PLCs, and HMIs.
Push Notification		A push notification is a message that pops up on a mobile device. App publishers can send them at any time; users don't have to be in the app or using their devices to receive them.
Quality of Service	QoS	Quality of service is the description or measurement of the overall performance of a service, such as a computer network or a cloud computing service, particularly the performance seen by the users of the network. To quantitatively measure quality of service, several related aspects of the network service are often considered, such as packet loss, bit rate, throughput, transmission delay, availability, jitter, etc.

Remote Framebuffer	RFB	Remote Framebuffer is an open simple protocol for remote access to graphical user interfaces. Because it works at the framebuffer level it is applicable to all windowing systems and applications, including Microsoft Windows, macOS and the X Window System. RFB is the protocol used in Virtual Network Computing (VNC) and its derivatives.
Remote Machine Interface	RMI	A remote HMI. This means the HMI processor and touchscreen are physically located in separate locations.
Rinky Dinky	rinky	linconsequential, amateurish, or of generally inferior quality; small-time: a rinky -dink process; outmoded or shabby; backward; antiquated:
Supervisory control and data acquisition	SCADA	Supervisory control and data acquisition (SCADA) is a control system architecture that uses computers, networked data communications and graphical user interfaces for high-level process supervisory management, but uses other peripheral devices such as programmable logic controller (PLC) and discrete PID controllers.
Sensor		A device that translates a physical property into an electrical signal.
Server	SVR	In computing, a server is a computer program or a device that provides functionality for other programs or devices, called " clients ". This architecture is called the client–server model , and a single overall computation is distributed across multiple processes or devices. Servers can provide various functionalities, often called "services", such as sharing data or resources among multiple clients, or performing computation for a client.

Smart		A machine, or system, with integrated electronics or computer control that has some level of self-awareness and self-regulation.
Smart Factory		See "Industrial Internet of Things"
Smart Industry		See "Industrial Internet of Things"
Sparkplug B		cMT products support the Sparkplug B MQTT payload specification. Sparkplug is a specification for MQTT enabled devices and applications to send and receive messages in a stateful way and is supported by Inductive Automation Ignition Platform utilizing the Cirrus Link MQTT modules.
Subscriber (Aka "Client")		The end user of the data. Possibly a management dashboard allowing you to see system statistics, or ERP program or management dashboard for high-end control and data analytics.
Supervisory Control and Data Acquisition	SCADA	A control architecture characterized by end-to-end connections within a single programming environment, from the sensor in the field to the PC in the office.

Supply Chain Management	SCM	Type of management software used to track and oversee supply chain interactions including supply, inventory, and transport.
TCP/IP		Transmission Control Protocol/Internet Protocol, is a suite of communication protocols used to interconnect network devices on the internet.
Telemetry		An automated communications process by which measurements and other data are collected at remote or inaccessible points and transmitted to receiving equipment for monitoring.
Topic		A text string created by the MQTT network administrator to reference or address data. A topic may include a single data point or multiple related points. These topics are then subscribed to by the end user, or client.
Transport Layer Security	TLS/SSL	Transport Layer Security (TLS), and its now-deprecated predecessor, Secure Sockets Layer (SSL), are cryptographic protocols designed to provide communications security over a computer network.
VNC (virtual network computing)	VNC	Virtual Network Computing (VNC) is a graphical desktop sharing system that uses the Remote Frame Buffer protocol (RFB) to remotely control another computer. It transmits the keyboard and mouse events from one computer to another, relaying the graphical screen updates back in the other direction, over a network.

Virtual Private Network	VNP	A virtual private network (VPN) extends a private network across a public network, and enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network. Applications running across a VPN may therefore benefit from the functionality, security, and management of the private network.
Wide Area Network	WAN	Wide area network (WAN) is a telecommunications network or computer network that extends over a large geographical distance/place. Wide area networks are often established with leased telecommunication circuits.
Wi-Fi		Wi-Fi is technology for radio wireless local area networking of devices based on the IEEE 802.11 standards. <i>Wi-Fi</i> is a trademark of the Wi-Fi Alliance, which restricts the use of the term <i>Wi-Fi Certified</i> to products that successfully complete certification testing.