



ATS MES Excellence Centres

Lean, Six Sigma & MES Dictionary



*For
all kinds of industries*

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Having trouble understanding all terms related to Lean, Six Sigma and MES? We have selected the most commonly used words for your reference. This dictionary can be found also on the website www.ats-lean-six.com.

21CFR Part 11

A rule created by the FDA to facilitate introduction of electronic technology in the process of FDA submissions as well as in manufacturing and production. Part 11 was created to provide common sense guidelines on how to implement electronic equivalents of audit trail and signature processes previously performed on paper.

5 Whys

Methodology used to determine root cause of a defect or problem. This methodology uses question-asking to explore the cause/effect relationships underlying a particular problem.

5-Why Analysis

See 5 Whys.

5S

Kaizen methodology used for organizing workplaces (e.g. in shop-floors or offices). Target of 5S is to improve workplace morale, safety and efficiency. Phases of 5S are: Seiri (Sorting), Seiton (Straighten or Set in Order), Seiso (Sweeping or Shining or Cleanliness), Seiketsu (Standardizing) and Shitsuke (Sustaining the discipline).

7 Lean Wastes

The 7 Wastes are at the root of all unprofitable activity within the organization and they are following: 1. Defects, 2. Overproduction, 3. Transportation, 4. Waiting, 5. Inventory, 6. Motion, 7. Processing.



ATS manufacturing solutions help since 1986.

Adaptive Manufacturing

Adaptive Manufacturing is a product paradigm where a design concept for automation is tied to a concept 'production to product'. It contains the integration of all systems of the production and business level, e.g. SCADA, LIMS, Historian, SPC, MES, up to ERP, SCM, or Data Warehouse. Adaptive production is a large-scale integration, an allocation of intelligent services: Data and information from production and business systems get merged on a common platform to combine with each other and provide significant KPIs.

Affinity diagrams

Business tool for organizing data and ideas. By Affinity diagrams, you can sort ideas from Brainstorming into groups for review and analysis.

Agent-based maintenance

An intelligent agent is a software module capable of flexible autonomous action in a dynamic environment. Agents have sensors to gather information, reasoning to evaluate it and the authority to act. Agents allow service engineers to remotely monitor system and product behavior and to act immediately to prevent critical scenarios.

AIQ (Average Incoming Quality)

Average quality level going into the inspection point.

Andon

Tool for notification of quality or process problem. It serves to management, maintenance and workers.

AOQ (Average Outgoing Quality)

The average quality level leaving the inspection point after rejection and acceptance of a number of products.

APC (Advanced Process Control)

Indicates a combination of diverse process control technologies. ASP is composed of different kinds of process control tools, for example, model predictive control (MPC), statistical process control (SPC), Run2Run (R2R), fault detection and classification (FDC), sensor control and feedback systems.

APQP (Advanced Product Quality Planning)

Framework of procedures and techniques used to develop products in industry. APQP consists of five phases: 1. Plan and Define Program, 2. Product Design and Development Verification, 3. Process Design and Development Verification, 4. Product and Process Validation, 5. Launch, Feedback, Assessment & Corrective Action.

APS (Advanced Planning & Scheduling)

Supporting tool within the production management to plan functions based on the MRP-II method. APS delivers work orders to the plant. It refers to a manufacturing

management process by which raw materials and production capacity are optimally allocated to meet defined demands.

AQL (Acceptable Quality Level)

The worst tolerable process average in percentage or ratio that is still considered acceptable.

ATS Inspect

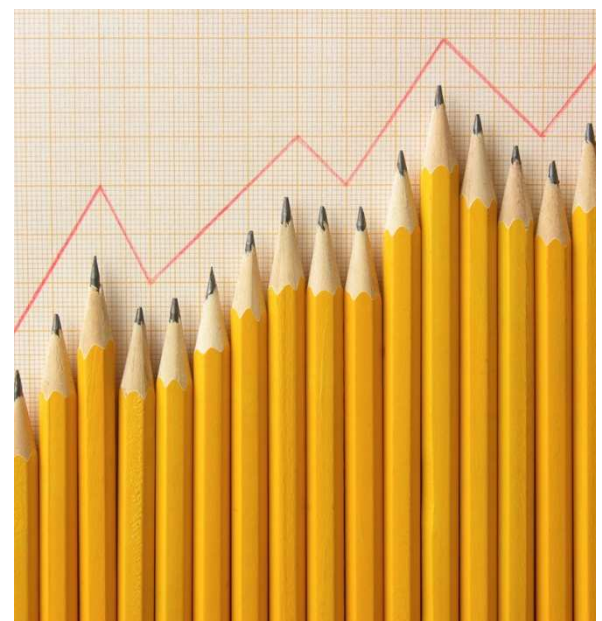
A solution for collecting, analyzing and reporting defect-related data in many various production environments.

Automation

Principle of usage of Control Systems with other application of IT to control industrial machinery and processes. Automation is reducing the need for human interventions.

Autonomation

Also known as Jidoka. This term describes the process of prevention against the production of defective products, elimination of overproduction and focuses attention on understanding the problem and ensuring that same problem never recurs.



Increase productivity with ATS to grow sharp.

B2MML (Business to Manufacturing Markup Language)

A format, a generic object model based on the XML standard within ISA-95 defined environment. B2MML is an XML implementation of ANSI/ISA-95. It is meant to be a common data format to link ERP and supply chain management systems (SCM) with manufacturing systems such as control systems or MES.

Balanced Scorecard

Tool, which drives performance and accountability throughout the organization.

Batch Analysis

IT tools to analyze data related to batch production, e.g. batch composition or genealogy. Batch analysis provides a way of analyzing production performances not in terms of time but of executed batches.

Benchmarking

Allows to discover what is the best performance being achieved, whether in your company, by a competitor, or by an entirely different industry.

BI (Business Intelligence)

Global term used to explain the ability of software to generate user-specific information (via reports, graphs and charts), e.g. the performance of various aspects of the company and its customer relationships to foster intelligent and fast decision-making. BI may also use 'role-based dashboards' and balanced scorecards. The required data come from an integrated Data Warehouse or Data Mart.

Black Belt

Stage of Six Sigma knowledge. Black Belt is team leader responsible for implementing process improvement projects within the business to increase customer satisfaction levels and business productivity.

BOM (Bill of Material)

Lists materials (components or ingredients) and is the single most important deliverable that an engineering team gives a manufacturing team for the product design. At the simplest conceptual level, the BOM is a list of each part needed to create a finished product. In real-world usage, however, the BOM is a complex collection of pieces of information and the relationship between them. The BOM is also a vendor list that specifies materials planning and corresponding expenses.

Boxplot

Basic graphing tool that displays centering, spread, and distribution of a continuous data set.

BPM (Business Process Management)

Defines, enables and manages the exchange of the enterprise information through the semantics of a business process view, which involves employees, customers, partners, applications and databases.

Brainstorming

A method that generates ideas in a group and serves for problem solving. Basic rules: No idea is bad idea, every idea counts.

Buffer

The location between each operation in a production line that contains in-process parts.



Typically a conveyor, roller-rack, or CML (continuously-moving-line).



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CAD / CAM (Computer-Aided Design / Manufacturing)

The combination of computer-aided design and computer-aided manufacturing. CAD contains all processes in which computers are used for conceptual and detail design, the use of wide range of computer-based tools that assist engineers, architects and other design professionals in their design activities. It is the main authoring tool within PLM process and involves both software and special-purpose hardware. Linking it to MES allows for closed-loop integration to e.g. maximize design-to-market.

CAPA (Corrective and Preventive Action)

Required quality measures that must be maintained as outlined in the 21 CFR 820.100 and 21 CFR 211.180 regulations and in ISO 8402. The purpose of CAPA is to make sure that the root cause of any problem is addressed in order to alleviate current or future problems. CAPA steps: Identification - Evaluation - Investigation - Analysis - Action Plan - Implementation - Follow-up.

Cause and Effect Diagram

Also known as Ishikawa diagram or Fishbone Diagram. A visual tool used to logically organize possible causes for a specific problem or effect by graphically displaying them in increasing detail.

cGMP (current Good Manufacturing Practice)

Guidelines for the quality assurance of production processes and environments in pharmaceuticals, active ingredients and medical devices as well as foods and animal feeds.

Chaku-Chaku

Chaku-Chaku is an efficient style of production. All the machines needed to make a part are situated in the correct sequence very close together. Each machine performs a different stage of production, such as turning, drilling, cleaning, testing or sandblasting. The operator simply loads a part and moves on to the next operation.

Champion

Stage of Six Sigma knowledge. Champions are responsible for holding accountability for the results, driving the vision and mission of Six Sigma into the organization, removing barriers to successful implementations and in resume maintaining the passion and commitments of the business units.

Change Management

Management process responsible for controlling and managing requests to effect changes to the business infrastructure or any aspect of business services to promote business benefit while minimizing the risk of disruption to services.

**CM (Collaborative Manufacturing)**

Strategy by which all appropriate individuals and organizations work together.

CMM (Coordinate-Measuring Machine)

A device for measuring the physical geometrical characteristics of an object.

CNC (Computer Numerical Control)

Automation system. A computer controller that reads instructions and drives a machine tool.

Coding

Coding means implementing rules that are used to map elements, usually on one-to-one basis.

Communication Architecture

A method that is used to design communication infrastructure and processes.

Continuous Flow

A manufacturing strategy that produces a part via a Just-In-Time and Kanban production approach. The goal is an optimally balanced production line with little waste, the lowest possible cost, on-time and defect-free production.

Continuous Improvement

Also known as Kaizen. A methodology that adopts new activities and eliminates those, which are found to add little or no value, to increase effectiveness by reducing inefficiencies, frustrations, and waste.

Control Software

Software which is being used in various industrial automation applications.

Control System

A device or set of devices to manage, command, direct or regulate the behavior of other devices or systems.

Controls Architecture

A method that is used to design control infrastructure and processes.

COQ (Cost of Quality)

Cost of quality is the amount of money that company loses because its product or service was not done right in the first place.

Corrective Action

The response to an occurring problem (product or customer complaint).

CPM (Collaborative Production Management)

System that, based on integrated software applications, enables resource planning, monitoring of production processes, and re-confirming real-time data to the ERP through plant data collection.

CRM (Customer Relationship Management)

A strategy that puts the customer at the design point. CRM is designed to understand and anticipate the needs of current and potential customers.

Cycle Time

The total time from the beginning to the end of your process, as defined by you and your customer.

Cycle Time Variation

A proven metric and philosophy for continuous improvement with the aim of driving down the deviations in the time it takes to produce successive units on a production line.



ATS can help you to optimize your processes.

Data Acquisition

The process of sampling of real world physical conditions and conversion of the resulting samples into digital numeric values that can be manipulated by a computer.

Data Collection

A term used to describe a process of preparing and collecting data. The purpose of data collection is to obtain information to keep on record, to make decisions about important issues.

Data Entry

See Data Acquisition.

Data Mining

Integrated process for detecting patterns within a database or data sets through various methods such as the extraction of potentially useful information.

DCS (Distributed Control Systems)

Distributed Control Systems are an element of a manufacturing system. They are used in industrial and civil engineering applications to monitor and control distributed equipment with remote human intervention. A DCS is generally digital and consists of field instruments. These instruments are analogically or digitally connected to computer buses or electrical buses via multiplexers/demultiplexers. A connection from distributed or central controllers to the HMI or control consoles is being implemented by buses.

Defect

Any type of undesired result. A failure to meet one of the acceptance criteria of your customers. A defect is a failure to conform to requirements. One of 7 Lean Wastes.

Defects Inspection

Process of searching for defects during various phases of development or production.

Demand-driven Manufacturing

Manufacturing plans and operations triggered by customer demand signals, ensuring shorter production, purchasing and supply chain paths.

Design-to-Manufacture

Concept based on a strong integration between product engineering/development and the manufacturing process.

Deterioration

The process of growing worse, or the state of having grown worse.

Deterioration Prevention

A method of prevention against worsening the processes or conditions.

Digital Manufacturing

Digital Manufacturing is an integral component of a full broad-based PLM strategy. It creates solutions that effectively support collaborative manufacturing process planning among engineering disciplines, such as design and manufacturing - based on best practices and a full digital product definition.

Discrete Manufacturing

Discrete manufacturing varies from process manufacturing. In discrete manufacturing, the manufacturing floor processes orders to build for example toys, medical equipment, computers and cars. Discrete manufacturing is mainly characterized by individual or separate unit production.

Dispatching Production Units

A procedure for assigning employees (workers) or machines to products.

DMAIC (Define, Measure, Analyze, Improve, Control)

A process improvement using Six Sigma methodology. DMAIC is an acronym for five phases: 1. Define, 2. Measure, 3. Analyze, 4. Improve, 5. Control.

DMS (Document Management System)

Software applications designed to manage all types of documents, including scanned, electronic and paper documents. All documents are stored in a single repository that facilitates all actions that need to take place from search and retrieval to email and printing. They commonly provide check-in,

check-out, storage and retrieval of electronic documents.

DNC (Distributed Numerical Control)

Common manufacturing term for networking CNC (computerized numerical control) machine tools. On some CNC machine controllers, the available memory is too small to contain the machining program (for example machining complex surfaces), so in this case the program is stored in a separate computer and sent directly to the machine, one block at a time. If the computer is connected to a number of machines, it can distribute programs to different machines as required. DNC networking or DNC communication is always required when CAM programs are to run on some CNC machine controls.

Document Control

A computer system used to track and store electronic documents and/or images of paper documents.

DPMO (Defects Per Million Opportunities)

Also known as PPM. The average number of defects per unit observed during an average production run divided by the number of opportunities to make a defect on the product under study during that run normalized to one million.

DPO (Defects Per Opportunity)

Represents total defects divided by total opportunities.

DPU (Defects Per Unit)

Represents the number of defects divided by the number of products.

DSS (Decision Support System)

Automated system that supports the process of decision-making. It enables an employee, typically a manager, to make better and faster decisions based on the analysis of collected data.

DTM (Downtime Management)

Strategy used by manufacturers for plant optimization, monitoring and ultimately minimizing downtimes of equipment tool due to failure (both plant and HW/SW) or scheduled maintenance, with the scope of reducing loss in effectiveness.

DW (Data Warehouse)

Data warehouse is not an operational system but the main repository of an organization's historical data: its corporate and manufacturing memory. It contains the raw material for management decision support systems. Users can perform complex queries and analyses by accessing such a data warehouse responsible for the data mining. It is crucial to access the information without slowing down the operational systems. The data warehouse is optimized for reporting and analysis.



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EAI (Enterprise Application Integration)

Concept for the company-wide integration of business functions along the Value Chain. There are different methods such as Data Integration Enterprise Bus, Application Integration Message Broker, and Process Integration Process Management Tools.

EBR (Electronic Batch Record)

Batch recording through a computerized system that specifies and controls manufacturing operations and documents all processes and quality information, providing instant visibility and facilitating retrospective analysis of batch manufacture.

EDI (Electronic Data Interchange)

Method for exchanging data between systems based on a set of standardized specifications using networks such as VANs or the Internet. As more and more companies are connected to the Internet, EDI is becoming increasingly important as an easy mechanism for companies to buy, sell and trade information. ANSI has approved a set of EDI standards known as the X12 standards.

Efficiency

A term indicating the optimization of productivity. It means enhancing productivity, i.e. less rework, less errors and optimal use of resources.

EMI (Enterprise Manufacturing Intelligence)

Also known as Manufacturing Intelligence. A solution used to bring a corporation's manufacturing-related data together from many sources for the purposes of reporting, analysis, visual summaries, and passing data between enterprise-level and plant-floor systems. As data is combined from multiple

sources, it can be given a new structure or context that will help users find what they need regardless of where it came from. The primary goal is to turn large amounts of manufacturing data into real knowledge and drive business results based on that knowledge.

Enterprise Gateway

A solution used to bring a corporation's manufacturing-related data together from many sources for the purposes of reporting, analysis, visual summaries, and passing data between enterprise-level and plant-floor systems. As data is combined from multiple sources, it can be given a new structure or context that will help users find what they need regardless of where it came from. The primary goal is to turn large amounts of manufacturing data into real knowledge and drive business results based on that knowledge.

ERP (Enterprise Resource Planning)

A system that is used to manage and coordinate all the resources, information, and functions of a business.



ATS solutions reduce paperwork & failures.

Fail-Safing

Also known as Mistake-Proofing or Poka-Yoke. A mechanism in manufacturing process that helps an equipment operator avoids mistakes. Its purpose is to eliminate product

defects by preventing, correcting, or drawing attention to human errors as they occur.

FDA (The US Food and Drug Administration)

Agency of the United States Department of Health and Human Services responsible and setting the most important regulations and guidelines for food (human and animal), dietary supplements, drugs (human and animal), cosmetics, medical devices (human and animal) and radiation emitting devices (including non-medical devices), biologics, and blood products in the United States.

FIFO (First In, First Out)

A way of organizing and manipulation of inventory relative to time and prioritization. FIFO ensures that the oldest inventory (first in) is used first (first out).

Fishbone Diagram

Also known as Ishikawa diagram or Cause and Effect Diagram. A visual tool used to logically organize possible causes for a specific problem or effect by graphically displaying them in increasing detail.

FMEA (Failure Mode and Effects Analysis)

An approach used to identify possible failures of a product or service and then determine the frequency and impact of the failure.

FPY (First Pass Yield)

The number of units coming out of a process divided by the number of units going into that process over a specified period of time.

FTY (First Time Yield)

The number of good units produced divided by the number of total units going into the process.



ATS Consultancy for manufacturing & business.

Gantt Chart

A reporting tool used to illustrate a project schedule. This chart demonstrates the work breakdown, total duration needed to complete tasks, as well as percentage of completion.

Gemba

The place where value is created. In manufacturing, the gemba is the factory floor. The idea of gemba is that the problems are visible and the best improvement ideas will come from 'going to the gemba'.

Genchi Genbutsu

Means 'go and see for yourself'. It refers to the fact that any information about a process will be simplified and abstracted from its context when reported.

Genealogy

Genealogy allows the user to track backwards thru the manufacturing history of a product batch to the original materials used to manufacture the batch and thus rebuilds the manufacturing history of a product.

GMPIGxP (Good Manufacturing Practice)

Set of regulations, codes and guidelines for the manufacture of drugs (known as medicinal products in Europe), medical devices, diagnostic products, food products and Active Pharmaceutical Ingredients (APIs). The term 'current' Good Manufacturing Practices or 'cGMPs' refers to the way, the pharmaceutical product regulations are called in the USA in order to emphasize that the expectations are dynamic.

Green Belt

Stage of Six Sigma knowledge. Green Belt is future Six Sigma project leader. Green belt carries out Six Sigma projects of relatively low complexity, carefully defined, without a full-time involvement of a Black Belt.

GUI (Graphical User Interface)

A connection between the computer and the user employing a mouse and icons to allow the user to make selections by pointing at icons and buttons and clicking the mouse to execute actions: drag-and-drop actions are also supported. Computer interfaces are normally associated with operating systems like Windows and Macintosh where a mouse can be used to navigate the screen. A GUI allows the use of graphics such as icons and buttons to execute actions and also uses drag-and-drop to perform actions.



Minimize potential hazards with ATS supervision.

HACCP (Hazard Analysis and Critical Control Point)

Systematic approach to food safety that addresses physical, chemical and biological hazards as a means of prevention rather than finished product inspection. HACCP is used in the food industry to identify potential food safety hazards. The system is used at all stages of the food production and preparation processes.

Hanedashi

Auto-eject devices that unload the part from the machine once the cycle is complete.

Heijunka

Also known as Production leveling. A technique that allows to produce intermediate goods at a constant rate, to allow further processing to be carried out at a constant and predictable rate.

Histogram

A basic graphing tool that displays the relative frequency or occurrence of continuous data values showing which values occur most and least frequently.

Historian

A group of IT components for managing process data and plant information across the enterprise for time-oriented KPI calculation, quality assurance, reporting, certification, statistical analysis and performance monitoring. Historian is the management system for process and production data (PIMS). Historian covers the three main activities related to plant information management: Production Data Collection, Production Performance Analysis and Production Tracking and exploits the general concept of Plant Intelligence. Main features are the collection of all process and production data, calculation of Key Performance Indicators (KPI), reporting and advanced

analysis functions such as Statistical Process Control (SPC).

HMI (Human Machine Interface)

Human Machine Interface (HMI) is an operator control and monitoring system that interfaces between machine operator and machine. It works with a dedicated electronic operator panel and computer based visualizations. As timely access to accurate information is critical in making the right decisions, the importance of a technology called human machine interface has been increased.

Horizontal Integration of the Manufacturing layer

Concept of Horizontal Integration that describes the combination of companies of the same production stages to with an integrative management. This enables a common supply of raw material and thus a common strategy to the market all the way to the finished products.

Hybrid Industry

Manufacturing processes in the Process Industry are often 'hybrid'. They are characterized by primary process activities such as reacting, mixing or separating and are combined with discrete applications of secondary processes, inbound or outbound. Hybrid industries are also characterized by mixed automation technologies.



ATS offers reliable services for any kind of industry.

IEC 61131

A standard for Programmable logic controllers (PLCs).

Implementation Leader

A manager responsible for implementation of processes or changes.

Industrial Computer

A computer specifically designed to reliably operate in harsh usage environments and conditions, such as strong vibrations, extreme temperatures and wet or dusty conditions.

Industrial Engineering

A branch of engineering that concerns with the development, improvement, implementation and evaluation of integrated systems of people, money, knowledge, information, equipment, energy, material and processes.

Industrial PC

A computer specifically designed to reliably operate in harsh usage environments and conditions, such as strong vibrations, extreme temperatures and wet or dusty conditions.

Inspection

An organized examination or formal evaluation exercise. Inspection can be done by using measurements, tests, and gauges applied to certain characteristics concerning an object or activity. The results are usually compared to specified requirements and standards for determining whether the item or activity is in line with these targets.

Inspection Software

Attribute data collection software, which is designed to reduce the costs associated with scrap, rework, warranty claims and production bottlenecks in many different fields of manufacturing. Inspection software allows

collecting, analyze and report defect-related data in applications where part and assembly defect information is critical to the production of quality parts.

Interoperability

The ability of a system or a product to work with other systems or products without special integration efforts on the part of the customer. This generally requires the compliance with common standards. The collaborating systems or products become compatible.

Inventory

Goods and materials held available in stock by a business. One of 7 Lean Wastes.

Inventory Reduction

Part of JIT (Just-In-Time) philosophy. JIT considers inventory as a waste, which has to be reduced. By inventory reduction cost are reduced significantly.

ISA-88

ISA-88 is the international standard for production flexibility that defines terminology specific to batch control systems. The standard provides models and terminology that support the structuring of production processes and the development of control for equipment.

ISA-95

ISA-95 is an international industry standard that was defined by the Instrument Society of America (ISA, founded in 1945 in the USA) to set standards for automation. ISA-95 defines the terminology between an ERP system and a MES framework down to the Control level. This standard has been developed for global manufacturers to be applied in all industries and in all sorts of processes (batch, continuous, discrete). Part of that framework relies heavily on the World Batch Forum (WBF) standard, called the BZMML, which

provides the appropriate context around the data. As long as the ERP system and the MES system both comply with these standards, they speak the same language. This standard helps address questions such as which tasks can be executed by which function and what information must be exchanged between the applications.

Ishikawa diagram

Also known as Cause and Effect Diagram or Fishbone Diagram. A visual tool used to logically organize possible causes for a specific problem or effect by graphically displaying them in increasing detail.

ISO

International Organization for Standardization. ISO is also the beginning of the codes of single international standards.

ISO 9000 Series

Series of standards established in the 1980s by countries of Western Europe as a basis for judging the adequacy of the quality control systems of companies.



Save your resources, increase profit with ATS.

Jidoka

Also known as autonomation. This term describes the process of prevention against the production of defective products, elimination of overproduction and focuses

attention on understanding the problem and ensuring that same problem never recurs.

JIS (Just-in-Sequence)

Scheduling technique that delivers to the manufacturing lines the needed parts used for production not only just when they are needed (Just-In-Time) but also in the correct sequence required by the production orders.

JIT (Just-In-Time)

A planning system for manufacturing processes that optimizes availability of material inventories at the manufacturing site to only what, when & how much is necessary.



ATS helps to improve business results.

Kaikaku

A rapid change event as opposed to Kaizen, which is smaller incremental changes. Kaikaku is revolutionary while Kaizen is evolutionary.

Kaizen

A philosophy or practices focusing on continuous improvement in manufacturing activities, business activities in general, and even life in general, depending on interpretation and usage.

Kanban

A manufacturing environment, where nothing is produced unless there is signal to produce. It provides an order and efficient flow of

materials throughout the entire manufacturing process with low inventory and work in process.

Kano Model

A theory of product development and customer satisfaction, which classifies customer preferences into five categories: 1. Attractive, 2. One-Dimensional, 3. Must-Be, 4. Indifferent, 5. Reverse.

Knowledge Management

A range of practices used in an organization to identify, create, represent, distribute and enable adoption of knowledge and experience.

KPI (Key Performance Indicator)

Indicators with which the progress of objectives and/or critical success factors within a company can be detected to support important and fast decision-making. While the vast majority of companies rely on ERP and database management capabilities to accomplish manufacturing enterprise tasks today, emerging technologies, such as next generation MES, manufacturing intelligence and business analytics are playing an increasing role to realize mature real-time manufacturing KPI solutions for continuous improvement programs. For instance, OEE checks as one possible KPI the real machine efficiency compared to the theoretical one. Such KPIs can also be standardized across different locations thru Manufacturing Enterprise level initiatives to create operational benchmark levels.



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Labour Management

A strategic approach for employing people, developing their resources, utilizing, maintaining and compensating their services in tune with the job and organizational requirement.

LCA (Low Cost Automation)

An approach which promotes cost effective reference architectures and development approaches for production and transportation that properly integrates human skill and technical solutions, includes shop floor production support and decentralized process control strategies, addresses automation integrated with information processing as well as automation of non-sophisticated and easily handled operations for productive maintenance.

Lead Time

The amount of time, defined by the supplier that is required to meet a customer request or demand.

Leadership

The process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task.

Lean

Also known as Lean Manufacturing. Philosophy of elimination of waste in every area of production including customer relations, product design, supplier networks and factory management.

Lean Logistics

Initiative focused on eliminating all waste in logistic processes.

Lean Manufacturing

Generic process management based on reduction of process variation to improve overall customer value. The Lean Manufacturing concept tends to reduce the number of operations that do not add value to the final product, such as 'inefficient transport system' or 'repeated manual operations'. Often the number of non-adding value operations still exceeds 50% of the entire operations for manufacturing a product today.

Lean Warehousing

Initiative focused on eliminating all waste in warehouses.

LIMS (Laboratory Information Management System)

Software-based system that automates the work processes and long-winded administrative functions of a laboratory in R&D and manufacturing. A LIMS manages above all in process industries the complete test routine including sample log-in, testing, re-testing and final reports. It also covers functions such as stability studies, sample management, inspection plan and test equipment calibration. An enterprise LIMS extends this functionality thru the integration to company-wide resource planning systems including lab management, work scheduling and product release as well as trending and analytics. This way, a LIMS is capable of managing the workflow in laboratories, optimizing the collection, analyzing and reporting on all quality data in the laboratory, and managing and communicates the quality data to all involved stakeholders.



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Maintenance Management

A strategic approach for maintenance of resources, according to requirements of an organization.

Management Software

A software solution that helps management to use the company resources more effectively and brings significant savings.

Manufacturing Enterprise

Manufacturing Enterprise systems give manufacturing organizations a tool on hand to respond to today's increasing market pressure for shorter product life cycles, higher legal and regulatory requirements, faster time-to-market, Just-In-Time (JIT) or Make-to-Order requirements and many other issues. The manufacturer can then consider plant operations (where the products are physically manufactured) as an integral part of the supply chain and, more generally, as an integral part of the corporate business processes. This system supports the manufacturer to be more flexible and agile and to orchestrate all the individual elements that cooperate and collaborate to achieve the manufacturing targets. This way the manufacturing cycle becomes this way fully integrated with the corporate enterprise.

Manufacturing Intelligence

Also known as EMI (Enterprise manufacturing intelligence). A solution used to bring a corporation's manufacturing-related data together from many sources for the purposes of reporting, analysis, visual summaries, and passing data between enterprise-level and plant-floor systems. As data is combined from multiple sources, it can be given a new structure or context that will help users find what they need regardless of where it came from. The primary goal is to turn large amounts of manufacturing data into real knowledge and drive business results based on that knowledge.

Material Flow

The transportation of raw materials, pre-fabricates, parts, components, integrated objects and finally products as a flow of entities.

MES (Manufacturing Execution Systems)

An integrated hardware and software solution designed to measure and control critical activities in the production environment. A MES is a dynamic information system that drives effective execution of manufacturing operations. Using current and accurate data, MES guides, triggers and reports on plant activities as events occur. MES is a set of functions that manages production operations from the point of order release into manufacturing to the point of product delivery of finished goods. State-of-the-art MES provide and work with mission-critical information before, during and after production activities and also connect to other systems across the organization and supply chain via bi-directional communication. The ISA organization has defined standards regarding the scope and character of MES and its integration into a larger company-wide IT architecture independent of a particular solution vendor.

MESA (Manufacturing Enterprise Solutions Association)

An association of end users, vendors and manufacturing professionals, promoting innovation and best practices sharing, with a goal of delivering valuable knowledge around operations-centric enterprise solutions.

MIS (Management Information Systems)

Integrated IT infrastructure that helps coordinate production on a global scale and, if necessary, in real-time. Examples include

specifications, equipment and facilities, processes and procedures and quality tests, as well as personnel resources. However, current IT infrastructures are typically not ready to effectively accommodate these levels of integration. There is an information and functionality gap between the production level (where products are made) and enterprise level business systems (where high-level decisions on production are made).

Mistake-Proofing

Also known as Fail-Safing or Poka-Yoke. A mechanism in manufacturing process that helps an equipment operator avoids mistakes. Its purpose is to eliminate product defects by preventing, correcting, or drawing attention to human errors as they occur.

Motion

Any physical movement or change in position or place. One of 7 Lean Wastes.

MPS (Master Production Schedule)

A time-phased plan of the items and the quantity of each that the organization intends to build. The main purpose is to meet marketing requirements and to use production capacity.

MRO (Maintenance, Repair and Operations)

Ideal method for the effective planning of all resources of a manufacturing company thru simulation capabilities to determine material, labor and machine requirements.

MRP (Material Requirements Planning)

Increases manufacturing efficiency by managing the production schedule, reducing inventory, increasing cash flow, and delivering products in a timely manner.

MRP 2 – (Manufacturing Resource Planning 2)

MRP 2 is the consolidation of MRP (Materials Requirement Planning), capacity requirements planning (CRP) and master production scheduling (MPS). MRP was originally designed for materials planning only. When labor and machine (resources) planning were incorporated, it became known as MRPII. Today the definition of MRPII is generally associated with MRP systems.

Muda

Japanese term for waste. Muda is an activity that is wasteful and does not add value or is unproductive, or un-useful.

Mura

Japanese term for waste. Mura means unevenness, inconsistency in physical matter or human spiritual condition.

Muri

Japanese term for waste. Muri means overburden, unreasonableness or absurdity.



ATS knows how to measure equipment efficiency.

OEE (Overall Equipment Effectiveness)

Calculation method that focuses on individual items of process or manufacturing equipment at a finite level and allows their 'effectiveness' to be measured individually or in groups (i.e.

with other equipment items). The OEE calculation is based on the ratio of the three key production parameters: availability, performance, and quality with time (e.g. planned shift time/s). It can be viewed as the percentage of time that equipment would need to run at its maximum speed in order to attain the actual output of the tool or machines. OEE acts as a measure for the control and management of the life cycle of manufacturing plants.

OEE Software

Software for data collection and calculation of Overall Equipment Effectiveness.

OEM (Original Equipment Manufacturer)

Manufacturer that manufactures products or components which are purchased by a purchasing company and retailed under the purchasing company's brand name.

One Piece Flow

The concept of moving one workpiece at a time between operations within a workcell.

OPC (Openness, Productivity, Collaboration)

System used to automatically control a process thru network connections, sensors, controllers, operator terminals and actuators. It forms a part of the Shop Floor Automation System level (PLC, SCADA, HMI, DCS...).

Operation Scheduling

The purpose of scheduling is to minimize the production time and costs, by telling a production facility what to make, when, with which staff, and on which equipment. Production scheduling aims to maximize the efficiency of the operation and reduce costs.

Operations Intelligence

Critical element in production and manufacturing technology and an important prerequisite for the continuous optimization process in production. Via static methods (for instance SPC), stability and scalability of a process or a process step can be measured.

Operator Interface

Means by which operators interact with the system (a particular machine, device, computer program or other complex tool).

Overproduction

Supply over demand of products being offered to the market. This leads to lower prices and/or unsold goods. One of 7 Lean Wastes.



Save money with ATS - reduce paper&doublework.

Paperwork

An activity that maps the process and helps to save data in written form.

Pareto Chart

A type of chart, used in statistical quality assurance, which contains both bars and a line graph. The bars display the values in descending order, and the line graph shows the cumulative totals of each category, left to right.

Pareto Principle

Principle, which states that 80% of the impact of the problem will show up in 20% of the causes.

PDefM (Product Definition Manager)

Component that handles the creation of the Product Production Rules (PPR) that make up the group of tasks necessary to produce a certain product (in ERP terminology the PPR is also called routing). With each of these so-called product segments (PS) a rule in the Production Modeler (PM) is associated. One or more rules of the PM correspond to each PS.

PDM (Product Data Management)

Component that handles short term scheduling of work orders downloaded from ERP or APS. It schedules orders at the level of a plant or of an area and provides the tools to manually interact for the definition of the schedule, in particular thru a Gantt chart that is able to handle different scheduling scenarios.

PDS-I (Predictive Detailed Scheduler)

The detailed scheduling is a function typical of scheduling at the plant or area level. It provides the functionality to support the user (a human scheduler) for defining a feasible plan of production orders. The orders are downloaded from the business level (ERP and/or APS) and have to be properly scheduled in a detailed way into a feasible plan. PDS-I provides several tools for supporting users in performing these actions including project specific automatic algorithms, scheduling measures for comparing different scheduling scenarios, concurrent editing of different scheduling scenarios and many

other. It is a unique proposition in the detailed scheduling word.

Performance Management

Performance management includes activities to ensure that goals are consistently being met in an effective and efficient manner. Performance management can focus on performance of the organization, a department, processes to build a product or service, employees, etc.

Performance Monitoring

Activity, which ensures that goals are consistently being met in an effective and efficient manner. Performance Monitoring can be focused on performance of the organization, a department, processes to build a product or service, employees, etc.

PIMS (Plant Information Management System)

PIM systems collect and integrate information from production processes via different sources company-wide. In the Plant Information Management data must be collected, grouped, aggregated, validated and manipulated. It provides functions that sometimes overlap or are integrated with typical SCADA functions, in particular for detailed data collection and presentation.

Plant Intelligence

Overall visibility of the manufacturing process and all the relevant information, actions, responses, statistics and performances. It can be considered as the meeting point between high-end HMI, SCADA and low-end MES functionality (Data Collection and Performance Analysis, according to ISA-95) up to the Manufacturing Enterprise including its evolution towards Operations Intelligence.

PLC (Programmable Logic Controller)

A digital computer that usually uses microprocessors to realize the automation of industrial processes, such as the control of machinery on factory assembly lines. PLCs can also control complex sequencing. The program is stored in battery-backed memories and/or Electrically Erasable Programmable Read-Only Memories (EEPROMs). Unlike general-purpose computers, PLCs are packaged and designed for extended temperature ranges, dirty or dusty conditions, immunity to electrical noise, and are mechanically more rugged and resistant to vibration and impact.

PLM (Product Lifecycle Management)

Solutions to collaborately manage all related activities along the entire lifecycle of a product from its conception, thru design and manufacture to service and disposal. PLM is a set of capabilities that enables an enterprise to effectively and efficiently innovate and manage products and related services throughout the entire business life-cycle. It addresses product, design-related and process aspects. PLM generally covers Program and Portfolio Management, Requirement Management, Design and Validation, BOM, Closed Loop Quality, Document Management, Design to Source, Target Cost Management, MRO and Compliance.

PM (Production Modeler)

Graphical object-oriented tool allowing the user to follow the entire lifecycle of a MES project from the design to the commissioning phase. PM offers a modeling environment in which the various functions provided by MES components are graphically combined to define the execution logics of a physical plant. This logic shows all operating procedures in a user-friendly way.

Poka-Yoke

Also known as Fail-Safing or Mistake-Proofing. A mechanism in manufacturing process that helps an equipment operator avoids mistakes. Its purpose is to eliminate product defects by preventing, correcting, or drawing attention to human errors as they occur.

PPAP (Production Part Approval Process)

Process, which outlines the methods used for approval of production to ensure that suppliers of components comply with the design specification and can run consistently without affecting the customer line.

PPM (Parts Per Million)

Also known as DPMO. The average number of defects per unit observed during an average production run divided by the number of opportunities to make a defect on the product under study during that run normalized to one million.



Increase manufacturing productivity with ATS.

Preventive Action

The process of detecting, meeting and eliminating potential problems or errors.

Problem Solving

Activity when an organism or an artificial intelligence system needs to move from a given state to a desired goal state.

Process Engineering

A methodology that focuses on the design, operation and maintenance of chemical and other process manufacturing activities.

Process Industry

The Process Industry covers industries like Food & Beverages, Pharmaceuticals or Oil & Gas. It is characterized by batch/semibatch processes and continuous/discontinuous processes, for the manufacturing of products. Many production steps demand inputs such as time, pressure or heat.

Process Management

A management approach focused on aligning all aspects of an organization with the wants and needs of clients.

Process Mapping

A hierarchical method for displaying processes that illustrates how a product or transaction is processed.

Processing

The act of taking something through an established and usually routine set of procedures to convert it from one form to another. One of 7 Lean Wastes.

Product Engineering

The process of designing and developing a device, assembly, or system such that it is produced as an item for sale through some production manufacturing process.



Product Genealogy

See Product Tracking.

Product Tracking

An observation of a product during the whole manufacturing a distribution process. By product tracking manufacturer is allowed to track defective products or product series.

Production Leveling

Also known as Heijunka. A technique that allows to produce intermediate goods at a constant rate, to allow further processing to be carried out at a constant and predictable rate.

Production Modeling

Modeling a Production Operation means to sequence functionality exposed by different Components according to the defined manufacturing target.

Production Operations

Executable workflows of business and production logic to precisely specify all the MES activities related to production (production definition management, dispatching, execution, tracking, etc.).

Production Order

Production orders are part of the Production Planning. They are used to plan and control the manufacturing activities of a company. Production Planning includes bills of material, routings, work centres, sales and operations planning, master production scheduling, material requirements planning, shop floor control, product costing and Production Orders. Other names are work order, manufacturing order, or production order. In manufacturing, it consists of providing specifications and quantities for the required products, usually including material lists and routing paths.

Production Quality

The average level of production quality as an output from quality tracking software.

Project Charter

Also known as Project Definition or the Terms of Reference. A statement of the scope, objectives and participants in a project. It provides a preliminary delineation of roles and responsibilities, outlines the project objectives, identifies the main stakeholders, and defines the authority of the project manager. It serves as a reference of authority for the future of the project.

Project Definition

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Pull System

The flow of resources in a production process by replacing only what has been consumed.



ATS supports you to reach outstanding quality.

QA (Quality Assurance)

Activity of providing the needed evidence to establish confidence that quality-related activities in manufacturing are performed effectively. These actions may be systematic or specifically required to meet defined processes and given requirements.

QFD (Quality Function Deployment)

A structured approach to defining customer needs or requirements and translating them into specific plans to produce products to meet those needs.

QS-9000

International quality system standard that focuses on helping automotive suppliers ensure that they are meeting/exceeding automotive customer requirements.

Quality

Quality means conformance to requirements, or exceeding the requirements.

Quality Control

A process for maintaining proper standards in manufacturing.

Quality Management

Structure of defined and scheduled operations to ensure the highest possible quality of products. The QM method is widely used in manufacturing to develop and implement products that match the highest effectiveness and efficiency level with respect to the system and its performance.

Quality Monitoring

A systematic set of activities to ensure that processes create products with maximum 'Quality' at minimum 'Cost of Quality'.

Quality Planning

A process or tool that ensures a requested quality level.



Getting bizzare reports? ATS will help you.

Reporting Solution

Standardized process that ensures a distribution of important information to requested employees.

Resource Allocation

Is used to assign the available resources in an economic way.

Rework

Work done to correct defects.

RFID (Radio Frequency Identification)

Refers to the technology that uses devices attached to objects transmitting data to an RFID receiver. These devices can be large pieces of hardware the size of a small book, like those attached to sea freight containers, or very small devices inserted into a label on a package. RFID has advantages over barcodes such as the ability to hold more data, change the stored data as processing occurs, no line-of-sight requirement to transfer data and high efficiency in harsh environments where barcode labels will not work.

ROA (Return on Assets)

The Return on Assets provides a percentage measurement of the profitability of a plant by effectively calculating the revenue of its assets such as of total assets (fixed and current), long-term assets, and operating profit.

Robust Process

Process is which is operating at six sigma and is therefore resistant to defects.

ROI (Return on Investment)

Calculation of the net income to be saved or earned as the result of an investment. The earnings stay in relation to the size of the total amount invested, expressed as a percentage. For this calculation, investments of both time and capital are factored in.

Root Cause

An identified reason for the presence of a defect or problem.

Root Cause Analysis

Class of problem solving methods aimed at identifying root causes of problems and events by deductive reasoning down to the physical and human root, also using inductive reasoning to identify a broader, latent, or organizational root.



Smart ATS solutions for data control & acquisition.

SCADA (Supervisory Control And Data Acquisition)

System that refers to the combination of telemetry and data acquisition whereby computers are used to automatically or via operator commands collect real-time data from plant machinery to provide central monitoring, control and process visualization of the plant and its facilities. Plant instrumentation (sensors, switches, motors, pumps, valves etc.) is connected to the PLC, which in turn is connected to the PC running the SCADA software. SCADA comprises of collecting information, transferring it back to a central site, carrying out analysis and control, and displaying these data on various operator screens.

Scatterplot

A graph of the points representing a collection of data is one of the most useful techniques for gaining insight into the relationship between two variables.

SCM (Supply Chain Management)

Process of planning, implementing and controlling the operations of the supply chain with the purpose of satisfying customer requirements as efficiently as possible. Supply chain management spans all movements and storage of raw materials, work-in-process inventory and finished goods from point of origin to point of consumption. It thereby encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. It therefore supports the coordination and collaboration with third parties contributing to the Manufacturer's supply chain.

Scorecard

A scorecard is an evaluation device, usually in the form of a questionnaire, that specifies the criteria your customers will use to rate your



business's performance in satisfying their requirements.

Scrap

Discarded material, semi-product or product, allocated for reprocessing or liquidation.

Seiketsu

Phase 4 from 5S methodology. It means Standardizing.

Seiri

Phase 1 from 5S methodology. It means Sorting.

Seiso

Phase 3 from 5S methodology. It means Sweeping, or Shining, or Cleanliness.

Seiton

Phase 2 from 5S methodology. It means Straighten, or Set in Order.

Shitsuke

Phase 5 from 5S methodology. It means Sustaining the discipline.

Shop Floor Automation and Control

Automation of the dynamic, flexible and resource-friendly assignment of production. This means a to-the-minute timing of all production processes, permanent transparency in manufacturing as well as ideal capacity efficiency.

SIPOC

The acronym SIPOC means Supplier-Input-Process-Output-Customer. It is the method that helps you not to forget something when mapping processes.

Six Sigma

Systematic methodology for quality management trying to eliminate errors on products and services. Six Sigma refers to the ability of highly capable processes to produce output within specification. It utilizes information and statistical methods for measuring a plant's performance, focused on improving business processes. In particular, processes that operate with Six Sigma quality produce defect levels below 3.4 defects per (one) million opportunities (DPMO).

SMART Objectives

Or SMARTER. The criteria for project objective setting stage. Common also in Performance Management where it serves for setting correct criteria of goals and targets. SMART/ER mnemonic means: S - Specific, M - Measurable, A - Attainable, R - Relevant, T - Time-bound, E - Evaluate, R - Reevaluate.

SMED (Single Minute Exchange of Die)

One of Lean tools that reduce the changeover time. It has a set of procedures to be followed for a successful implementation.

SOA (Service Oriented Architecture)

SOA is primarily a management concept that aims at an infrastructure aligning business processes while at the same time considering the fast changing requirements of a business environment. SOA is an architectural style usually based on Web services standards (e.g. using SOAP) combined with business logic. These standards provide greater interoperability thru the aggregation of Web services into the services of the business layer. SOA can be implemented using any service-based technology.

SOAP (Simple Object Access Protocol)

Remote procedure call mechanism that transfers data in XML format through communication channels such as HTTP. It defines the supported methods with its arguments and data types as they are transferred in XML form. The SOAP server's capabilities are described in a WSDL (Web Service Definition Language) document.

SOP (Standard Operating Procedures)

A set of instructions directs and covers features of operations that refer to a definite or standardized procedure and thus increases effectiveness.

SPC (Statistical Process Control)

A set of statistical methods for installing quality control in manufacturing processes. It is covered by the identification and control of causes of variations in a process and its separation from common cause variations.

SQC (Statistical Quality Control)

Methodology of analyzing quality test result and testing performance in order to determine how to improve product quality.

SQL (Structured Query Language)

The most popular computer language used to create, modify, retrieve and manipulate data from relational database management systems. The language has evolved beyond its original purpose to support object-relational database management systems. It is an ANSI/ISO standard.

Standardization

The process of developing and agreeing upon technical standards. A standard is a document that establishes uniform engineering or technical specifications, criteria, methods, processes, or practices.

Sticky Lean

Sticky Lean is an advanced version of the original Lean philosophy. The idea of Sticky Lean is to keep all the Lean processes alive and sustains them running unchanged after the implementation. Sticky Lean permanently prevents unwanted procedural changes to keep everything working effectively by integrating Lean philosophy into the IT and Automation systems embedding Lean permanently. Sticky Lean ensures a Lean Implementation never degrades over time.

SWOT Analysis

A strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture.



ATS knows best that your time is your money.

Tact Time

The maximum time per unit allowed to produce a product in order to meet demand.

TCO (Total Cost of Ownership)

Financial calculation designed to help investors of e. g. manufacturing projects to assess direct and indirect costs related to the purchase of any capital investment, such as



(but not limited to) computer software or hardware. A TCO assessment ideally offers a final statement reflecting not only the cost of purchase but also all aspects in the further use and maintenance of the equipment, device, or system under consideration.

Teamwork

A joint action by two or more people, in which each person contributes with different skills and express his or her individual interests and opinions to the unity and efficiency of the group in order to achieve common goals.

Terms of Reference

Also known as Project Definition or Project Charter. A statement of the scope, objectives and participants in a project. It provides a preliminary delineation of roles and responsibilities, outlines the project objectives, identifies the main stakeholders, and defines the authority of the project manager. It serves as a reference of authority for the future of the project.

TPM (Total Productive Maintenance)

An equipment-maintenance program for business theory that closely resembles the Total Quality Management (TQM) program and lean manufacturing.

TQC (Total Quality Control)

The most necessary inspection control of all in cases where, despite statistical quality control techniques or quality improvements implemented, sales decrease.

TQM (Total Quality Management)

Management strategy aimed at embedding awareness of quality in all organizational processes, with the scope to create customer

satisfaction at continuously lower real costs. TQM has been widely used in manufacturing.

Tracking & Tracing

Tracking & Tracing for MES is the concept of locating material and resources (from raw material to finished goods) that are being forwarded from origin to a specific destination - thus providing the complete manufacturing history of a product and storing performance analyses, including for regulatory purposes.

Transportation

The movement of people and goods from one location to another. Transport is performed by modes, such as air, rail, road, water, cable, pipeline and space. One of 7 Lean Wastes.

Tree Diagram

Decomposes ideas in greater detail. Tree diagram is dividing a big idea or problem into its smaller components. It makes the idea easier to understand or the problem easier to solve.

TS 16949

International quality system standard that focuses on helping automotive suppliers ensure that they are meeting/exceeding automotive customer requirements.



ATS establishes strong partnership with you.

Value Chain

Value Chains consist of a set of activities that are supposed to maximize value creation

while minimizing costs. MES's responsibility is to support enterprise and manufacturing environments along the value chain to optimize any critical activity.

Value-Added

The difference between cost of materials and labor to produce a product, and the sale price of a product.

Value-based Project Analysis and Management

Concept of generating higher customers confidence during project execution, based on analysis, project methodologies and its tangible results that enable an efficient balance of compliance, cost, resource utilization and transfer of knowledge. Value-based project management applies to the values and leverages of both the user and the project owner. This helps each individual to commit oneself to and perform his/her respective duties and targets, and to contribute to the growth of asset and value development.

Variability Reduction

Methodology for problem solving and problem avoidance. Part of Root Cause Analysis.

Vertical Integration of the Manufacturing layer

Vertical Integration means the transparent data communication from the process level to the corporate management level. Vertical Integration enables production flexibility and adaptation through modularization and standardization of the entire and seamlessly integrated sub-processes. Results are lower investments and increased productivity.

Visual Controls

Also known as Visualization. A technique for control of an activity or process made easier

or more effective by deliberate use of visual signals. Examples: signs, information displays, layouts, handling tools and material storage, color-coding and color-clothing.

Visual Inspection

A common method of quality control, data acquisition, and data analysis.

Visual Management

In some companies, Visual Management is a mixture of Corporate Identity and Visual Controls.

Visual Quality

A visual conformance of a product, part or semi-finished material with required specification.

Visualization

Also known as Visual Controls. A technique for control of an activity or process made easier or more effective by deliberate use of visual signals. Examples: signs, information displays, layouts, handling tools and material storage, color-coding and color-clothing.

VOC (Voice Of the Customer)

A market research technique that produces a detailed set of customer wants and needs, organized into a hierarchical structure, and then prioritized in terms of relative importance and satisfaction with current alternatives.

VSM (Value Stream Mapping)

A paper and pencil tool that helps you to see and understand the flow of material and information as a product or service makes its way through the value stream.



Don't wait. Get rich experience with ATS Trainings.

Waiting

The act of staying or remaining in expectation.
One of 7 Lean Wastes.

Warranty Claim

Action between customer and reseller/supplier to resolve the situation when product or service does not meet expected criteria.

Waste

An activity that does not result in moving the process closer to the final output or adding value to the final output.

WMS (Warehouse Management System)

Key part of the supply chain that integrates activities performed mechanically and by individuals with an information system to effectively manage warehouse business processes and direct warehouse activities in the plant environment.

Work in Progress

Status monitoring of goods manufacturing in various stages of completion throughout the plant, including all material from raw material that has been released for initial processing thru to completely processed material awaiting final inspection and acceptance as finished goods inventory.

Zero Defects

A practice that aims to reduce defects as a way to directly increase profits.

Work Standardization

The process of developing and agreeing upon technical standards. A standard is a document that establishes uniform engineering or technical specifications, criteria, methods, processes, or practices.

Workcell

An arrangement of resources in a manufacturing environment to improve the quality, speed and cost of the process.



ATS will help you to find the right way.

XML (eXtensible Markup Language)

World Wide Web Consortium (W3C) recommended general-purpose Internet protocol that transmits data between applications and companies over the Internet, capable of describing many different kinds of data. XML is a format that includes both data and rules for how the data is to be described. Such a XML file can contain the data in a database. XML is used to format batch recipes or production orders. The exchange of such XML-documents between involved systems such as the ERP is thereby standardized.

Yellow Belt

Stage of Six Sigma knowledge. Yellow Belt is employee that understands the basics and metrics of Six Sigma.



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About ATS

ATS is an *Independent Solution Provider*, with over 20 years experience and a wealth of experience undertaking Continuous Improvement initiatives and Manufacturing IT solution design, deployments and 24/7 support assignments.