Module 8
Section C: Technology Trends

Term
3D printing

Module 8
Section C: Technology Trends

Term
Analytics

Module 8
Section C: Technology Trends

Term
Artificial intelligence (AI)

Module 8
Section C: Technology Trends

Term
Automated guided vehicle system (AGVS)

Module 8
Section C: Technology Trends

Term
Blockchain

Module 8
Section C: Technology Trends

Term
Cloud computing

Module 8
Section C: Technology Trends

Term
Digital twin

Module 8
Section C: Technology Trends

Term
Expert system

The review of typically large sets of business data using mathematics, statistics, and computer software to identify meaningful patterns in the data to help in decision-making.

The process of layering materials to make products and components using computer data. Syn.: additive manufacturing. See: rapid prototyping.

A transportation network that automatically routes one or more material handling devices, such as carts or pallet trucks, and positions them at predetermined destinations without operator intervention.

Computer programs that can learn and reason in a manner similar to humans. The problem is defined in terms of states and operators to generate a search space that is examined for the best solution.

An emerging way of computing in which data is stored in massive data centers that can be accessed from any computer connected to the internet.

A continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains a cryptographic hash of the previous block, a timestamp, and transaction data. The data in any given block cannot be altered retroactively without the alteration of all subsequent blocks, inherently making it resistant to modification.

A type of artificial intelligence computer system that mimics human experts by using rules and heuristics rather than deterministic algorithms.

An exact virtual replica or model of a real-world process, product, or service used to digitally simulate, test, model, and monitor it.

Module 8
Section C: Technology Trends

Term
Gap analysis

Module 8
Section C: Technology Trends

Term
Heuristics

Module 8
Section C: Technology Trends

Term
Information system architecture

Module 8
Section C: Technology Trends

Term
Internet of things (IOT)

Module 8
Section C: Technology Trends

Term
Learning curve

Module 8
Section C: Technology Trends

Term
Machine learning

Module 8
Section C: Technology Trends

Term
Project management

Module 8
Section C: Technology Trends

Term
Robotic process automation (RPA)

A form of problem solving in which the results or rules have been determined by experience or intuition instead of by optimization. Heuristics can be used in such areas as forecasting, lot sizing, or determining production, staff, or inventory levels.

A tool designed to assess the differences between a service that is offered and customer expectations.

An environment in which objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. This allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the physical world and computer-based systems.

A model of how the organization operates regarding information. The model considers four factors: (1) organizational functions; (2) communication of coordination requirements; (3) data modeling needs; and (4) management and control structures. [This] should be aligned with and match the architecture of the organization.

Artificial intelligence software that is capable of analysis, self-training, and observation to improve its own performance. It is often used to assist with planning and forecasting.

A curve reflecting the rate of improvement in time per piece as more units of an item are made. A planning technique, [this] is particularly useful in project-oriented industries in which new products are frequently phased in. The basis for the [this] calculation is that workers will be able to produce the product more quickly after they get used to making it. Syn.: experience curve, manufacturing progress curve.

The use of software robots (also referred to as “bots”) to emulate human execution of repetitive, pre-defined business processes.

The use of skills and knowledge in coordinating the organizing, planning, scheduling, directing, controlling, monitoring, and evaluating of prescribed activities to ensure that the stated objectives of a project, manufactured good, or service are achieved. See: project.

Module 8
Section C: Technology Trends

Term
Sensors

Module 8
Section C: Technology Trends

Term
Supply chain control towers

Module 8
Section C: Technology Trends

Term
Wearable

Module 8
Section C: Technology Trends

Term
Work breakdown structure

Module 8
Section C: Technology Trends

Term
augmented reality (AR)

A centralized hub that provides an integrated, complete view of data across the end-to-end supply chain. The system allows the supplier to see the requirements and inventory levels at the customer's site, enhances the ability to get accurate information about supply location and availability, and highlights any potential excess inventory. Similarly, it helps the customer easily identify supply and demand variations and take necessary actions to return excess inventory.

Devices that can monitor differences in conditions to control equipment on a dynamic basis.

In project management, a hierarchical description of a project in which each lower level is more detailed. See: project summary work breakdown structure.

A form of technology worn on the body that allows hands-free work by being voice and/or gesture activated. Wearables can be used for a wide variety of activities within a supply chain, including tracking activity levels, distances moved to execute transactions, and even the exact location of workers in the warehouse. Syn.: wearables.

Using holographic imagery alongside the physical environment to provide additional information or guidance about how to carry out a task. For example, warehouse employees can wear AR-enabled smart glasses to see information about the locations of items as well as instructions about what items and quantities to pick when pulling material to fill an order.