

Topic Page: [Automation](#)

Definition: **automation** from *Philip's Encyclopedia*

Use of self-governing machines to carry out manufacturing, distribution and other processes automatically. By using feedback, sensors check a system's operations and send signals to a computer that automatically regulates the process. See *also* mass production; robot

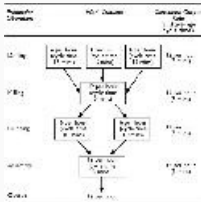


Image from:

[Production-line balancing. A simple... in Collins Dictionary of Business](#)

Summary Article: **automation**

From *The Columbia Encyclopedia*

automatic operation and control of machinery or processes by devices, such as robots that can make and execute decisions without human intervention. The principal feature of such devices is their use of self-correcting control systems that employ feedback, i.e., they use part of their output to control their input. Once the automated process is set up, human participation in the manufacturing process involves little more than maintenance and repair of the equipment.

In a typical automated manufacturing process, the feeding in of materials, the machine operation, the transfers from one machine to another, the final assembly, the removal, and the packing are all done automatically. In some automated manufacturing, a single robot with interchangeable tool heads performs all of the various manufacturing assignments. At various stages in the operation are inspection devices that reject substandard products and adjust the machinery to correct any malfunction. Since electronic computers are able to store, select, record, and present data systematically, they are widely used to direct automated systems.

Automation is applied to the manufacture of foodstuffs, chemicals, pharmaceuticals, textiles, electronics, and many other goods, and is used in steel mills, automobile factories, printing plants, coal mines, package-handling facilities, and other workplaces. Another application is its use in the launching, aiming, and guidance of military rockets and other weapons. Automation has also been applied to information handling, resulting in automatically prepared bills and reports, computerized stock trading and typesetting, and the solution of many engineering problems. It offers high quality products together with great savings in costs, but the consequences of the loss of jobs due to automation can have significant societal effects, especially in smaller and moderately sized communities.

See also robotics; computer-aided manufacturing.

See Senker, P. , *Toward the Automatic Factory? The Need for Training* (1986);
D. I. Cleland; Bapaya Bidando, *Factory Automation Handbook* (1990).

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automation. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/automation>



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