



White Paper

Industrial Computing Shows Efficiency In Smart Factories

Overview

Smart manufacturing is a manufacturing with the target of developing the concept of generation, construction, and product activity. In addition, industrial computers help to communicate, control and collect the important data faster. Therefore, smart factories need industrial computing to run efficiency and maintain the factories with more technologies than human powers.

Smart Factories

First of all, smart manufacturing are different than traditional manufacturing. Smart manufacturing takes advantage of advanced details and manufacturing technologies. Moreover, smart manufacturing aims to take advantage of advanced information and manufacturing technologies. In order to enable flexibility in processes to address the information to the market. With the smart manufacturing, industries achieve higher control ability and faster response times. Therefore, smart manufacturing increases overall equipment effectiveness.

Industry 4.0



When using the system of smart factories, how does the data exchange in manufacturing technology? Industry 4.0 is the current trend for data exchange in manufacturing technologies.

Industry 4.0 (Continue)

Furthermore, industry 4.0 includes the Internet of things, cyber-physical systems, and cloud computing nowadays. Moreover, within the modular structured smart factories, the systems can monitor physical processes and make decisions. With the Internet of Things, cyber-physical systems pass the messages to communicate with people in real time.

Control Systems

A control system manages, decides, orders and directs the behavior of other devices in systems. Additionally, device control system is a protection that restricts users to have access to certain devices. The device control systems have the ability to connect to all of the devices and help optimize and maximize overall effectiveness on equipment. Furthermore, In factories or facilities power monitoring systems connected to the internet to provide real time data on the power system. Therefore, the online software let the owners and service providers to recognize potential issues with the electrical systems.

Data Communications

Data communication means the exchange of data between sources and receivers. The physical connection between networking devices uses either cable media or wireless media, such as internet. Furthermore, data communication is locally when communicating devices are in the same area, such as same buildings. Moreover, data communication targets at the transfer of data and the keeping of the data. In fact, the data exist in many forms such as numbers, bits, and bytes. The figures or symbol is an illustration of data communication system.

Internet of Things

Nowadays, the concept of things connect to electronics and to internet is everywhere. First, internet of Things refers to a network of connected things with embedded electronics. With the embedded electronics to let IoT to report and control decisions. IoT Gateway help connect things to internet by using connectivity technologies. Furthermore, there are many challenges in designing an IoT Gateway as security and authentication.

Embedded Computer



Embedded computer with passive cooling design

IPC (Industrial Personal Computer) is different than a regular PC because of its environmental characteristics. It's shock absorption, moisture resistant, dust/water resistant, wide range working temperatures, anti-electromagnetic interference, and its ease of access for expansion slots make it relatively robust.

When it comes to smart manufacturing, embedded computer is a good choice. Acnodes Corporation's embedded computer utilizes the high performance process and has fanless operation with rugged construction under extend working temperature in harsh working environment. The fanless operation and fully integrated interface ports increase the computer reliability, extends MTBF and reduces maintenance. Embedded computers come with low power consumption processor and industrial grade embedded system board for reliability and stable function.

More addition, Acnodes Corporation has a wide array of product line configurations. Therefore, they can customize most commercial and industrial computers to one's specific needs. For more information, please call them at (909) 597-7588 or email them at info@acnodes.com. One can also visit their website: www.acnodes.com.