



Celebrating our 25 years in business, we at Axiomtek are looking back at the progress that technology has brought to our world since the 1990's when we first opened our doors for business. Clearly, the world has changed for the better with the help of technology advancements. The Internet as we know it today, has paved the way for the Internet of Things. This issue is dedicated to looking at this significant progress in communications, connectivity and analytics that has led to the smart and connected world we are living in.

## **Changing How We Do Our Business: The Internet of Things**

Originally created in the 1960's for the U.S. Military as a means of communicating and transferring a large amount of data, the Advanced Research Projects Agency Network (ARPANET) was a precursor to the modern Internet. The Internet first broke into the mainstream in the early 1990s, with the creation of the server and client software that is known as the World Wide Web and the language HTML by Tim Berners-Lee. It offered the public a revolutionary new way to upload, store, search for and obtain information, and communicate with others around the world.

We have come a long way since then. With new advancements in communications technology, businesses have started to embark upon the next revolutionary way to connect not just through human interface devices but also allow for device-to-device communications to achieve optimization for various purposes. The Internet of Things (IoT) concept connects the physical objects, i.e., sensors, hardware, etc., together through the existing internet, allowing for the exchange of valuable data and information for operational purposes and future improvements.



To utilize the IoT concept, various industries can use IoT gateway products to help bridge data transfer from edge devices to the servers or other devices. Embedded controllers, sensors, actuators can all now communicate and provide valuable data for analysis. The results are enhanced productivity levels and reduced human error rates. The IoT concept has a vast impact on all industries and has widely become the way of the future especially for factory automation, security and surveillance, and power utilities/renewable energy operations.

For example, smart factories can utilize the IoT to work within the entire production line process, controlling operations, processing and transferring important information needed in order to improve efficiency and productivity.

Most factory operations use the programmable logic controllers (PLC) to issue commands in the assembly line and control repeated functions based on data received from sensors and the programming logic.

Current controllers available in the market have communications capabilities and are able to transfer key operational information from the assembly line to the control room. Companies that are implementing the IoT concept are looking for embedded controllers, IoT gateway devices and Human-Machine Interfaces (HMI) systems with high levels of reliability, quality, and flexibility in design and customization, ruggedness, and communications capabilities to accelerate their business transformation and achieve their established goals.

The ICO300-MI is Axiomtek's IoT gateway solution with key features including the IoT Gateway Solutions with software stack for manageability, connectivity and security; wireless connectivity; isolated Ethernet ports and low power consumption. For embedded controllers and industrial computers, Axiomtek's rBOX, eBOX and IPC and product lines offer many useful features including high performance CPUs, wireless connectivity, wide operating temperature ranges, wide voltage ranges, rich I/O options, and expandable storage space. For Human-Machine Interface use, Axiomtek's GOT product line key features include options for resistive or capacitive touchscreen; high brightness; enhanced graphical display; connectivity; water/dust/corrosion-resistant designs and expandable I/O options.



The ICO300-MI

Contact us at [solutions@axiomtek.com](mailto:solutions@axiomtek.com) or visit our website [us.axiomtek.com](http://us.axiomtek.com) for more information.