Brainstorm: Technology Obsolescence

Edited by Jason Lomberg

What technology will become obsolete in the near future?

Bill Graham, QNX Software Systems, www.qnx.com **[1]**

More and more automation and control customers connect their systems wirelessly. Many want their systems consuming less power, using power management features pioneered in handheld devices. Together, these trends could drive widespread adoption of Wireless Personal Area Networks (WPAN) for industrial control and end traditional hard wiring methods used for decades in offices and factories.

The advantages are clear: no wires and low power. For example, in many buildings, thermostats are placed about every 10 feet, along outside walls. These devices are hardwired to a central HVAC system. As buildings fill up with cubicles and meeting rooms, configurations are created that don’t match the placement of the thermostats. Inevitably, the HVAC system requires constant tuning and everyone complains of feeling too hot or too cold.

What if thermostats were battery driven and wireless? They could be placed in new offices and meeting rooms as needed. The wireless connectivity, using Zigbee or something similar, would create a mesh network, providing connectivity for all sensors and controls. Companies could then monitor and control entire systems or even implement adaptive control, thereby creating more flexible HVAC systems. As low-power wireless controllers and sensors become commonplace, this scenario will transform from theory into reality.

Paul Nickelsberg, Orchid Technologies, www.orchid-tech.com [2]

An electronic product designer encounters constant change. In fact, the only thing that stays the same is that everything changes. Electronic components and electronic product design requirements change constantly. The design process is one of applying the best known commercial methods to the problem at hand; with the certain knowledge that an improved solution is just around the corner. Today the art of illumination and image display is undergoing rapid evolution.

Break through LED technology promises to completely alter the illumination landscape. Solid state LED lighting uses significantly less power than its incandescent counterparts. Solid state LED lighting may be infinitely colored. In the area of image display, organic LED lighting holds promise for incredibly thin image display systems. The Cathode-Ray-Tube (CRT) as imaging device is all but gone from many office environments, replaced by LCD and soon LED flat panel displays.

Energy savings of 65 percent to 85 percent may be achieved using the new technologies. Orchid Technologies Engineering and Consulting, Inc. constantly finds itself on the forefront of electronic product re-design. Our entire business is the custom design of electronic products for our OEM clients. Product redesign, and design improvement is a large part of our day to day work. Visit www.orchid-tech.com [2] to learn more.

George Karalias, Rochester Electronics, www.rocelec.com [3]

All technology becomes obsolete at one point or another, but it's a good bet that there is a semiconductor reaching end-of-life as you're reading this. This fact, however, does not end the use of equipment that incorporates the technology or the need for a continuous manufacturing cycle. Therefore, end-users of semiconductors that may become obsolete (particularly in long-term programs such as aerospace, military, medical, and communications) need to put in place a plan to effectively continue building without interruption or cost overrun, which also protects against obtaining counterfeit and sub-standard parts.

Counterfeit and sub-standard parts needlessly jeopardize high-reliability and mission-critical applications, and the risk of obtaining such components increases dramatically when buying scarce parts through unauthorized brokers or independent distributors. Questionable parts often result in production delays, system failures, field failures, loss of profit and/or brand destruction. Still, many OEMs wait until an EOL announcement is made, or worse, until equipment needs to be updated or repaired and the part is no longer available. By planning for obsolescence at the time a part is designed into equipment, OEMs can choose from a variety of smart, safe, cost-efficient options rather than making the expensive, risky decision to procure parts through unauthorized sources.

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