Smart Products: Factoring hardware integration into the software development process

Hi, my name is Tom Hawk. I'm IBM's general manager for the industrial sector and that, in essence, means that I'm responsible for IBM's business in the automotive, the aerospace, the electronics, chemicals and petroleum and industrial products businesses.

As I speak with customers, one of the biggest trends I'm seeing is a shift from mechanical and electrical development to embedded software and technology development.

This specific shift creates many challenges for our customers, as it has created for IBM over the years. The underlying hardware technologies are commoditizing, putting more emphasis, focus and demand on the development of crisp and integrated software functionality to complement the commoditizing hardware base. In addition, this shift requires customers to manage risk differently, think about the integration of the end product more efficiently and effectively through the entire project and product life cycle management process, and also collapse time to market as competitive forces are brought to bear.

This life cycle that I referred to really encompasses the entire design, development, deployment and disposal process, all the way from the innovation on the front end associated with the product, both hardware, material sciences and software, as well as the ongoing customer experience. And frankly, the management and maintenance of that product as it relates to its entire life cycle, including software updates, software changes and ultimately the disposal of the product in its end instance.