Can Manufacturing Go Mobile?

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This article is the first in a two-part series on mobile technology in manufacturing. Tune into tomorrow's *Chem.Insider Daily* to find the second part.

One could argue that manufacturing helped spark today's mobile world. Decades ago -- long before the iPhone or Android -- manufacturers needed better ways to put data in the hands of their plant floor and supply chain employees. Ironically, but not surprisingly, the world is caught up in the consumer side of the market, drooling over a new device every week. But manufacturers are also going mobile -- whether it's for inventory control, dealing with customer orders, or managing employees -- with a growing network of software providers that are riding on the consumer wave. As more manufacturing workers purchase their own mobile devices, the software will be easier to disseminate, and no longer will manufacturing data be tucked away in some forgotten corner of the production area.

The iPhone did change the mobile market -- no one in the mobile manufacturing software business would disagree with that, despite how long they've been in the business. Google, RIM, and Microsoft have all followed up with their own devices, starting an arms race toward the fastest and easiest method to gather and analyze data from anywhere. As consumers rumor over which company will reign supreme, manufacturers are quietly determining which devices would be best for their specific needs.

And even if a manufacturer wanted to get into the space, it's not too late. In terms of technological niches, mobile is actually pretty young. There's a lot of room to grow, and it's really not that complicated.

A History of Mobility

Mobile software has been around for at least a decade, if you ask Mike Lee, CEO of Airclic. He says, "We've been in this business since 1999, but it was with these really expensive, rugged, big devices. We were using the cellular networks even back then." Manufacturing professionals probably remember these devices well, or perhaps use one right now. They typically ran on an embedded version of Windows, and were covered in thick rubber plating to protect the delicate electronics from bumps and drops. They probably had a stylus tucked into the body, and didn't respond to finger touches. The screens were small -- perhaps still locked in black-and-white -- and didn't offer much in the resolution department.

In order to reach today's mobile marketplace, a lot needed to change. New devices are nothing short of beautiful. They have large capacitive touchscreens, which allow users to perform a wide variety of tasks with multiple fingers. They're packed with a variety of miniscule-but-powerful chips, which means they don't easily get slowed down by data. They might not be as durable as their predecessors, admittedly, but if you need something that can take a beating, those rugged-style devices have also undergone some facelifts in recent years.

Without capable data networks from which users could pull in data, the mobile space wasn't ready to take off. Fortunately for the likes of Airclic, innovations in the consumer marketplace were easy enough to piggy-back on, proving customers with another level of value-added service. Almost any mobile device today is capable of connecting to not only wireless LAN networks (like the ones many Americans have at home), but also from a wireless carrier, such as Verizon, AT&T, or Sprint.

With all of this improvement, where does a typical manufacturer get started in the mobile space? What's the first step?

Going Mobile

Jim Somers, Chief Marketing and Strategy Officer with Antenna Software, says that unlike the consumer market, mobile manufacturing software begins with the same database-driven systems that most companies utilize today. Rare is the piece of mobile software that runs independently, because what would it connect to? Where would it pull in the data? In a vast majority of cases, mobile manufacturing software is tied to a larger enterprise-level solution, either as a value-added bonus, or at an additional cost.

The hunt for good software, however, can be complex at best. Unlike an electric motor, for example, a buyer simply can't compare spec sheets. Somers says, "I think the key is looking internally first, and then to assess where the greatest opportunity is internally to roll out your first application. What are the requirements for the business? Where is that data, and how are they going to get toward that data?"

Lee agrees: "My suggestion would be they start with the core of the solution, which is the software itself." If an enterprise-level software solution doesn't work from the office, how can a customer expect it to work while on the road? Lee agrees that the first step is doing the necessary research. Does the current provider offer a mobile component? What points of data need to be tracked? First, be sure that the non-mobile users would be satisfied with the system, then move on to mobile needs.

Once that system is found, a customer needs to ensure the mobile component is flexible enough for their specific operation. Lee says two of the most critical issues are device support and ongoing compatibility: "[Customers] have to look at the available software, and then ask the provider, 'Do you offer support for multiple devices?'" As more employees use their personal devices for work purposes, compatibility with Apple (iOS) and Android devices would be a good start. Compatibility with Windows Phone or RIM's new Blackberry operating system might also be a concern. And if the provider won't update its software for new devices or new operating systems, one might want to look elsewhere.

Lee says one of the most important aspects of finding the proper software is asking every question one might have. Don't purchase software if the provider hasn't answered for every required specification. In many cases, software providers are willing to work alongside their customers to provide support, if not a full-blown custom solution, albeit at a higher cost.

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