

CATERING TO MOBILE WORKERS A TOP PRIORITY FOR FRESH PRODUCE COMPANIES

This month, Anglia Business Solutions' development director Richard Jones looks at new developments in the field of mobile handheld technologies, and assesses what they could mean for the fresh produce industry

MARKET INTELLIGENCE firm IDC expects the global mobile worker population to increase from 758.6 million in 2006 to more than one billion in 2011, representing just over 30 per cent of the worldwide workforce.

Working in fresh produce throws up some unique challenges for IT. A small percentage of the fresh produce workforce uses desktop or laptop PCs, with the majority of staff out working in the field, packhouse or other non-office-based locations.

Any form of stock management, technical or financial system has to cater for the very fluid situation that we see every day in our industry. This is compounded by the fact that traditional systems just do not fit this environment, and struggle to keep up with what is going on in the packhouse or field as the crop is cut.

In the fresh produce industry, we are seeing major advances in the field of computer mobility; advances that lend themselves to this fast-moving environment. Solutions are now emerging to tackle the unique demands of fresh produce mobility, to ensure a good fit from a technology perspective that will provide a solid return on investment. This article will walk you through how components are coming to the fore to help solve the typical issues.

The devices

Terminals in use in packhouses are normally large, clunky and tend to offer really limited functionality.

We are now seeing major improvements in what can be done with the device hardware. With the commoditisation of high-quality colour screen mobile phones and digital cameras, this technology is gradually finding its way into the world of rugged mobile devices. Devices like the Symbol MC75, or Psion Tecklogix Ikon, offer ruggedised high-performance mobile PCs with barcode readers, in-built digital cameras and high-quality, full-colour screens.

Having such high-performance devices available opens up enormous possibilities, such as being able to attach photographs to quality control (QC) reports as damage on produce is detected. Additionally, these devices can be multi-functional. For example, the same handheld device can perform

standard warehousing tasks, such as receipting, picking and putting away, as well as QC, waste recording or label checking. A year ago, a typical device came with 128MB of RAM; this is tiny by today's standards. Using low-cost digital camera memory cards, it is now possible to equip a device with 8GB of storage for around £30.

But the handheld is only part of the story; what about printing labels or taking weight measurements? A mobile printer more routinely used by a traffic warden can be brought to bear in far nicer applications for fresh produce. QC reports can be printed as they happen, using a belt mounted printer such as a Zebra QL 420+. Weighing scales or pressure testers can now be linked directly to forklift mounted devices, so a forklift driver simply hits a button on a touch screen and the weight is captured electronically using wireless technology.

Most of the technology that we are seeing on these ruggedised handheld devices can also be used on the phones. Applications such as providing KPI dashboards to a line manager's phone, or displaying a list of orders and receipts for the day, involve little more than building a website that can be accessed on a mobile phone.

The infrastructure

Of course, all this mobile hardware needs to send information back to a central point. In the past, this has meant installing expensive proprietary radio receivers not suited to the high moisture content of a fresh produce environment.

There has been an explosive growth in low-cost wireless networking hardware, fuelled by the demand to have wireless broadband networks in the home. It is also possible and inexpensive to use the public phone network to make mobile applications work, requiring only a phone SIM card in the handheld device. All the

major phone companies offer flat rate data contracts for around £17 a month, which is a very attractive proposition.

So we are seeing better handheld devices, and easier and cheaper ways of hooking these systems up to a central server.

The software

Mobile software can at best be described as basic for the past few years. Mobile lines of business applications amount to a tiny sector of the market compared to the millions of mobile phone users. Providing the tools for building mobile solutions has not to date been a focus for the giants of the software industry.

However, the proprietary locked-down software technology of the past is gradually moving into what we have seen in other areas such as the internet or office application space. The web has seen an explosion in open and easy-to-adopt ways of writing software;

namely writing HTML code or building applications with tools like Visual Basic or Java. The same is happening for mobile application development. It is now possible to put software programs on the mobile devices themselves. Technologies such as the .NET Compact Framework or Java Micro Edition (J2ME) make it easier to make the best use of device features in a way that does not require software developers to learn a proprietary set of skills. In the past, building the software interfaces from a mobile application has been achieved by building flat files that are fed in batch from one system to another. This approach is difficult, time-consuming and prone to error. Now it is becoming commonplace to provide direct real-time access to backend systems, such as ERP solutions.

The investments that companies like Microsoft are now putting into

these areas make it very straightforward to add these facilities into the next generation of fresh produce systems.

The return on investment

It is great talking about these tools and technologies, but how do they help the bottom line? As you would expect, there is a direct impact on reducing labour costs. Efficiencies in the packhouse can be dramatically improved; an obvious example is the time taken to book in stock or pick produce for dispatch. We are starting to see the emergence of "paperless" packing and production operations. Managers manage by exceptions, and viewing KPI information rather than trawling through what has happened each day. The identification of problems is no longer in the domain of a line manager checking his email every 20 minutes. Alerts arrive by text message.

Streamlining the operational processes by adding complementary mobile technology can keep the business running in a way that directly benefits the bottom line.

The future

So what's next? Where is this all heading? Are we going to see packhouses with the lights switched off and robots doing all the work, just like the automotive industry?

Well, maybe in the long run but, in an industry such as ours, the handling, grading and packing of products is still a very labour-intensive and carefully controlled operation. Devices will improve and software will evolve. The "Microsoft Office" of the fresh produce sector is bound to emerge as time progresses.

We will see mobility being an essential part of all aspects of the operation for recording what really goes on, rather than retrospectively trying to re-create this information, but some companies still have a long way to go.

I have painted the landscape of how mobility coupled with modern real-time backend systems can be of great benefit to our industry. The systems described can work to help organisations in a way that is complementary, rather than a burden on the workforce. Next time you send a text message on your mobile, think what that large colour screen could be showing you. ○

