



*Applied Principles is that most unusual of IT companies, one that delivers more than it promises.
Ruari McCallion spoke to Mark Harris, of Kanes Foods and JJ Kotze of Applied Principles*

The promise of IT is always integrated this and seamless that. The reality is often somewhat less and the headaches a degree or so greater than anyone mentioned. So it's a pleasant surprise to come across a company that, when asked by its customer to come up with something outside the original specification, actually delivers more than expected. That's what Applied Principles has done with Kanes Foods.

"We had been providing IT support to Kanes Foods for some time, when they came to us in November 2006 and told us they couldn't find an appropriate QC (quality control) system," said JJ Kotze, managing director of Applied Principles. "They asked us to seek out an off-the-shelf set-up that would enable measurement of food temperature in production, but would also improve QC on supplies."

The EU's 'field to fork' traceability directive states that 'traceability of food, feed, food-producing animals and any other substance intended to be, or expected to be, incorporated into the food or feed shall be established at all stages of production, processing and distribution'. Everyone involved in the food industry, from the farmer to the supermarket, has to hold detailed

documentation on the source of their supplies, batch numbers, the processes they have gone through and the dates. Great idea: the problem, of course, is the paperwork.

"We were filling out around 500 pieces of paper a day, which had to be archived and maintained. When it came to audit we needed a team of individuals to locate the right box and right pieces of paper," said Mark Harris, factory manager with Kanes Foods.

The requirement is actually for same-day delivery of documents: the sheer quantity of forms and records meant that it was time consuming and labour intensive to achieve. When ordering fresh produce from suppliers – farmers in the UK or further afield in Europe – Kanes would get photographs of the plants or fruits in the field, which would then be labelled and sent to the company. Through the production process, mushrooms for stir-fry or soft fruits, or vegetables, all have to be monitored. If the temperature of stir-fry mushrooms, for example, rises above four degrees Celsius, then the producer has to take one of two options: stop production and get a responsible person to check everything, or abandon the entire run. It's wasteful, time-consuming and

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Requesting positive
release of batch

expensive.

“The original specification was for a PDA with separate camera and a bluetooth temperature gauge,” said Kotze. “We came across Two Technologies, who had developed an all-in-one PDA with a five megapixel camera, barcode scanner and the facility to add expansion packs like a temperature meter. We developed the temperature module with the help of Centron Solutions, in Dublin.” The units also have GPS and GPRS, so the farmer can take them into the field, take a photograph of the produce in the ground – location confirmed by GPS – produce a barcode and despatch the fruits or vegetables when the order is confirmed via GPRS. And this all takes place in real time.

“Because the system is computerised, the audit trail will be much easier to follow,” said Harris. “We can bring up and view the details immediately, rather than ploughing through tonnes of paperwork – which has been hand written and could therefore be misread or misinterpreted.” A typical on-site audit will watch the practices as they are happening and will look to us to ensure food safety was appropriate on any particular day in the past. It’s been quite a task but now we’re creating a paperless system, we can bring the information up immediately.”

The system Applied has developed is ‘task-based’. Instruction prompts are given to the operator on what to do, where and when, from a half-hourly check to temperature monitoring and despatch. It’s close to impossible to fool, which enhances security and traceability.

“All items are barcoded and the first thing the operator has to do is scan the barcode,” said Kotze. “The PDA will verify it’s the right item and that the operator is in the right place. Both movable items – the product – and static items – machinery – are barcoded, so scans can confirm location. If there’s any doubt whatsoever, a photograph will double-check.” Applied Principles hasn’t been standing still since delivering the system; development is ongoing.

“The week after we started development, a shift manager called and asked us to include training modules in the PDA. We’ve done so and it can be used for any training in the production area,” said Kotze. “We’re developing a new module, called Issue Stations, which links to payroll. It will authorise issue of knives, sleeves and gloves to the operators, tools to engineering – and issue of the PDAs themselves, so supervisors can more closely control who has what at any



“We can bring up and view the details immediately, rather than ploughing through tonnes of paperwork”

time.” Applied already has a good reputation with its portion control software, which Winterwood Farms managing director, Stephen Taylor, said was saving the company thousands of pounds each week, even on as small an amount as a gramme per fruit punnet. The improved monitoring helps boost effectiveness and productivity, too.

“The system as it stands will suit most companies – they can determine their own tasks and add modules as they wish. We have developed a basic software package – the Principle Datalogger – that can be supplied with a single PDA and can be installed by the user. The software will allow the user to create his own tasks and capture images of customer and supplier images. The task can be downloaded onto PDAs, which are then connected via a USB cable and everything required is right there, immediately,” said Kotze. Applied Principles is developing health and safety and maintenance modules; it can establish interfaces with central accounting or ERP systems, like Sage. “The three versions of the software, are from basic Datalogger, small business to enterprise, which includes VoIP. We’re continually talking with Kanes Foods and all our customers about how we will develop this system to meet the needs of a range of activities in the future.” **M**

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Checking air temperature in the fridge