



Not better – but different

Eddy Thans

TECHNOLOGY THAT DOES THE SAME THING AS OTHERS, BUT DOES IT IN A UNIQUE WAY, CAN FIND GAPS IN A MARKET THAT CAN'T BE FILLED BY ANYTHING ELSE.

ANDREW PICKERING
FINDS OUT HOW

Prime Vision was founded in 1956 from a Netherlands National Postal and Telecommunications Corporation (PTT) research department. The company's research efforts thus date from the dawn of the computer age when it was tasked with seeking ways to automatically read handwritten money transaction forms. Prime Vision was one of the first companies in the world with a solution capable of reading handwritten characters. Following the split of post and telecoms into separate operations, as in many countries, in the early 1990s the whole research organisation became split towards the telecom operator, meaning that Dutch Post was then an external customer and Prime Vision more or less started its independence from that moment on.

The company has two shareholders – TNT,

which holds 60 percent and TNO, the Netherlands Organisation for Applied Scientific Research, which has the remaining 40 percent. It is an interesting combination because one of TNO's functions is to commercialise technologies and developments developed in the academic sector. It comprises about five thousand scientists and researchers and is funded by the Dutch government.

Historically TNT was Prime Vision's main customer, with most developments being tested there and the company focusing solely on the Dutch market. Starting in 2004, however, a decision was made to spread the company's scope, as CEO Eddy Thans explains.

"We came to the point that we had to make a decision on how to continue to grow the company. One way would be to expand our

technology and the other would be to expand our geographic focus. We decided on the second option, so with the same technology we would focus not only on the Dutch market but also on international markets. This focus has brought us considerable success because now we really understand the postal market and have specific solutions that are applicable all over the world.

"When we first decided to spread out internationally we adopted a step-by-step approach. We established relationships with neighbouring countries, particularly in the Nordic region, which is why Post Danmark was one of our first international customers. In fact it is still one of the most important customers for Prime Vision. Then we gradually expanded farther afield and now we have reached as far as Australia.

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As Prime Vision's geographic focus has changed over the past six or seven years, so has its market focus and the way it approaches mail and parcel projects, as Thans explains. "Historically the mail market has been dominated by the big systems integrators, with the parcel market dominated by sorter suppliers, who mainly focused on machinery and not so much on software systems. So for the mail market we supplied only OCR and video-coding software, but for the parcel industry there were no suppliers who had complete control over a sorting centre. That enabled us to enter that market and create a clean split between the sorting machines and the IT, which is how we developed into our current role as a systems integrator, as with the project that we're doing at this very moment with An Post (Irish Post)."

So what is it about Prime Vision's solutions that makes it the supplier of choice for its customers? "One of the key points for Prime Vision has always been the recognition of handwriting," says Thans. "That's really the thing that makes us unique. Most mail centres already have some kind of OCR solution but most focus on machine-printed characters. So what is left over is mail with hand-written addresses or is printed but still very difficult to read. That is our area of focus – the difficult mail items. So I would not consider us to be better than other suppliers but we are different and we use different techniques. For our clients, this difference creates tremendous opportunities to take cost out of their distribution and sorting operations.

"When we developed our software we concentrated on the needs of the customer, so we had no interest in creating an OCR system that could read all the same items that other suppliers could read. But it was highly desirable for customers to have an extra recognition engine that could do extra things. In general you could say that it is the combination of our OCR with others that makes it most useful for a customer."

What is it about the way Prime Vision's OCR software works that makes it able to recognise handwriting so efficiently? "Development started in the 1960s with software to read handwritten bank documents such as cheques. The requirement there was the utmost in reliability, which meant that high-quality recognition was important. It wasn't just about high read rates, but more specifically about a very low error rate, which

means that all the features we built into our neural network are based on that philosophy – how they can contribute to the read rate without affecting the error rate. That’s what makes the software so powerful.”

A move into a new area of technology for Prime Vision came in the spring of 2010 when Thans came into contact with a speech technology company that was also part of the TNO organisation.

“What makes it very interesting for us is that there are a lot of similarities between speech recognition technology and character recognition and we can use experts from the speech group for our OCR development and vice versa. By combining the two we are trying to establish a much more solid market base. Of course speech technology can also be applied within the postal market, indeed there are some projects that have gone that route although we feel that it will never make a substantial business. What we find interesting about speech technology is more in the area for which we are developing a product called Audio Mining – you can imagine it as Google with audio fragments – and that gives us the room to add other markets besides postal.”

A landmark project for Prime Vision is the work it is currently doing with Ireland’s An Post. “It was important for us because it showed that we were being considered a real option as a systems integrator in the mail market, in addition to our work we had already carried out in the parcel market and supply a total solution.

The sorters are from NEC and Elsag and we have supplied the OCR engines, the video coding and the database management. It’s a total IT solution. The contract was signed at the beginning of 2010 and the first two sorting centres in Portlaoise and Athlone have just opened. The third will commence operations in Cork this summer and the final one in Dublin at the end of the year.”

A new product that Prime Vision has developed is the Integrated Coding Station. Head of marketing Mark Ryder describes the system. “It’s related to end-to-end work flow – an area that we are increasingly getting involved in at the integration level. A lot of our focus has been on understanding why things won’t automate – the rejects, the things that fall off the end of the line. Maybe they are too big, too small, don’t have the right postage or the right address. There are ways of optimising throughput but they rely on operator input.

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“We are trying to speed up that operator process by automating it as much as possible by combining hardware and software, and optimising the graphical user interface and ergonomics, making use of our experience in that field especially from video coding. Our first customer for the system is TNT Post, which has rolled it out at seven centres around the UK.

“We see a lot of development potential with the Integrated Coding Station because we anticipate doing a lot of work in customer processes, so it needs to be flexible and adaptable. Our customers all need to capture mailpiece data, which is increasingly at the sorter level with high-resolution dimensioning, OCR and barcodes, but our new workstation approach enables the same data to be collected from mailpieces that are not on the sorter”

As already mentioned, Post Danmark has long been one of Prime Vision’s customers and – as the newly formed Posten Norden – was one of the first users of its ParcelMatch solution, which has been developed over the past few years. Thans gives some details: “It has been a very big project for us over the past year and is really state of the art in terms of parcel automation, integrating multiple OCRs into a parcel environment, and taking video coding also to the next level in terms of on-line and off-line coding. There is a trend among postal operators to get more information about each mailpiece, which can be used for route optimisation, revenue recovery and billing, and we’ve developed new ways to do what they call deeper level video coding, gathering a lot more information about the mailpiece than is required just for sortation purposes.

“This extra information could be the customer name, house number, company details, sender information, and many things not necessarily in the barcode. For sortation you might only need to sort to seven regions, for example, but for route optimisation for the postman or the truck driver, you need information such as house number and receiver name. We see this requirement coming from the market now – how to get that extra information in the most efficient way.

With a project that began in the spring of 2010, Prime Vision has installed the latest version of ParcelMatch with multiple OCR engines, centralised video coding and the latest camera technology for the highest resolution images possible. “We’ve got fantastic feedback from the customer in terms of cost savings and what it’s meant for them,” concludes Ryder. ■