

White Paper



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Parcel & flats automation hits prime time

Mark A. Ryder, September 2009

Prime Vision continues to be awarded multiple high-profile contracts for its open-architecture ParcelVision automation platform at postal organisations around the world. In the last twelve months alone, systems have been installed in Australia, UK, USA, New Zealand, including several national deployments; Austria and Finland are prime examples.

Parcels & flats recognition and automation systems have long been defined as “emerging” technology, especially when compared to the established world of letter automation. However, the lines are becoming blurred as this relative newcomer is now a proven and very competitively priced, high-performer.

With a prestigious installation base and the Autumn 2009 launch of ParcelVision 3.0, it is clearly evident that parcels and flats’ recognition systems are now commonplace and mainstream in the minds of postal organisations. It’s easy to forget that only six years ago, if the brief was high-performance identification of parcels and flats, the only solution was to apply bar code labels to every item. Of course, for some applications, this is still the preferred solution. However for many organisations this adds cost and time to the process as, in many instances, labels cannot be applied at source.

Prime Vision has been a developer and supplier of high-performance recognition systems for letter automation systems for many years. Its solutions comprise OCR (Optical Character Recognition of machine-printed text) and ICR (Intelligent Character Recognition of hand-written text).

An important differentiator for Prime Vision is that it has taken these technologies from the letter recognition world and applied them to the unproven field of flats and parcels’ automation. And Prime Vision has mastered the art of recognition in this challenging application in a very short time-frame too; the first installations with Royal Dutch Post (TNT) and Denmark Post were instrumental in proving both the concept and its performance to an eager worldwide market.

The need for ParcelVision is now more critical than ever. ParcelVision 3.0 provides a complete automation platform to process the identification of flats and parcels on automated sorting systems. The key has always been to reduce costs and manual handling to a minimum by maximising the clients’ investment in automated sortation systems. In today’s market, that objective remains the single-most important business case benefit for deploying a ParcelVision system; it saves money from day one.

Today there is even greater synergy between letters’ and flats & parcels’ automation, to such an extent that often they are considered together in requests for proposals. The facilitator here is the extensive research and development invested in flats & parcels OCR and ICR in the past few years that has resulted in today’s high-performance systems. In the meantime, trends in the letter automation market are equally applied to flats and parcels’ automation. For example:



At a glance:

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40 FTE

Organisation:
a TNT & TNO Company

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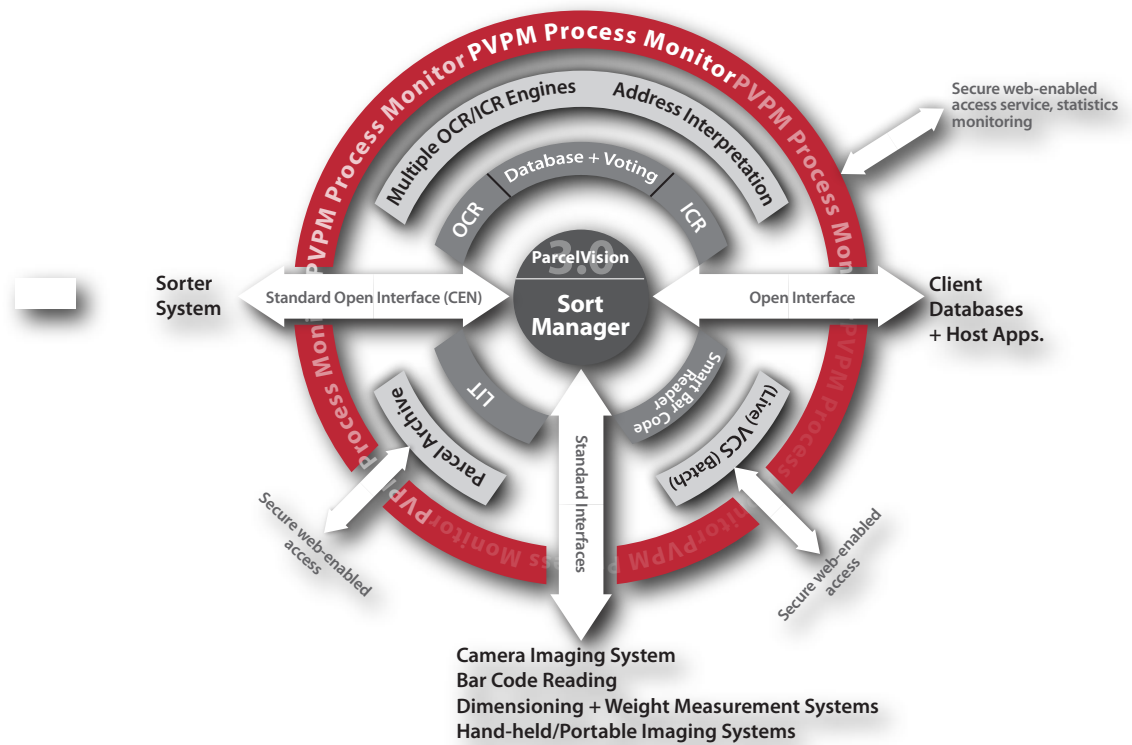
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Cost reduction through high automation rates and low error rates

- "Open" architecture systems, CEN compliant interfaces
- Multi-vendor environments to maximise performance
- ParcelVision 3.0 offers all these benefits but also a great deal more ...



ParcelVision 3.0 minimises, or eliminates altogether, the need for costly manual handling and processing, allowing postal companies to maximise their investment in automation. ParcelVision 3.0 offers a modular system architecture that suits a wide range of implementation scenarios and budgets; many users may start with a low-cost video-coding module for the efficient processing of bar code no-reads or items with no bar code or EDI pre-advice data. However, virtually every item will have an address label, so in many cases the addition of OCR / ICR technology can automate the identification of these items.

Fifty years of research & development

OCR / ICR technology is the "ace in the pack" when it comes to turbo-charging the automation rates on a sorting system. This is a particular Prime Vision strength. Prime Vision has over 50 years of research and development heritage in the field of recognition technologies; all development takes place in-house and even today approximately half of the company's employees are scientists and researchers dedicated to the art and science of OCR research and development. And naturally the company is proud that 2009 marks the 40th anniversary of its first OCR contract award.

So whether it is low-cost video-coding, turbo-charged OCR or one of the myriad additional modules, Prime Vision has a parcel automation solution to suit all.

ParcelVision 3.0 also delivers substantial benefits in terms of management information, reporting and continuous improvement programs. In essence it automatically generates a vast amount of operational data. And that information is a powerful tool. It provides the means to monitor, adjust and improve all sorts of logistical and operational processes. This information stream is delivered

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daily with Prime Vision's standard reporting module and even to a favourite 3G cell phone or a web-browser, anywhere in the world.

With the trend towards nationwide deployment of ParcelVision, companies are discovering for the first time that they can compare various workflow patterns at the sorting centre and also compare like-for-like sorting centres around the country, all within a single platform.

The secure web-enabled world

ParcelVision 3.0 includes a whole new range of web-enabled services that expand the scope of influence beyond the sorting centre. This offers ultimate scalability and accessibility plus the benefit of easy integration into an established IT infrastructure based on industry-standard protocols.

A common question is "if I am sorting parcels, why do I need web-access?" In fact the benefits of ParcelVision 3.0 in this regard are considerable ...

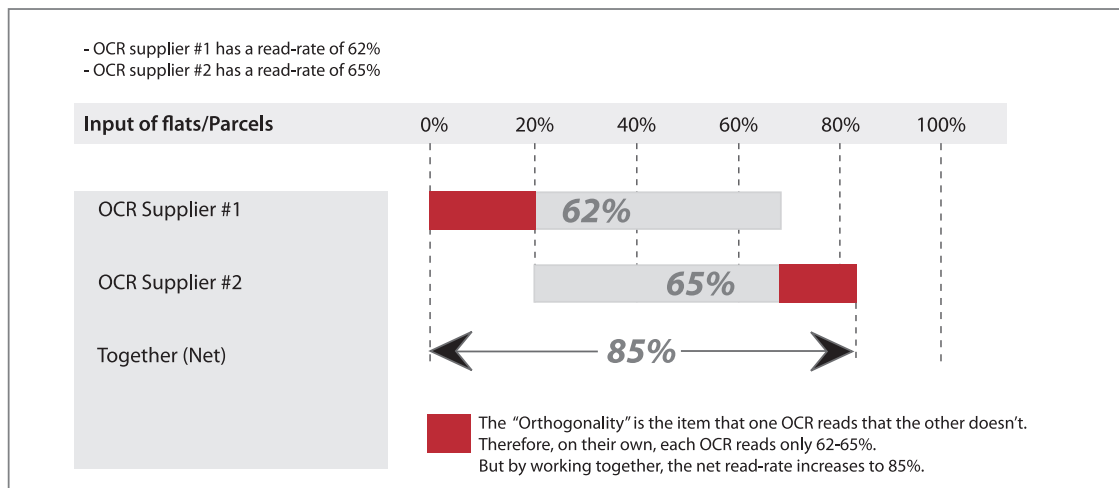
- Quality control, timing and traceability for 100% of items shipped
- Actual images of parcels recorded, available to the customer services' department for claims management in the case of damage or poor packaging
- A website ready parcel image for a customer track-and-trace website
- Unlimited flexibility and scalability for video-coding operations. A good example is adding extra video-coders for the Christmas peak season
- Information, statistics and reports, delivered direct to the management team, wherever they may be
- Five minute online support and diagnostics access, 24/7

ParcelVision 3.0 delivers all these possibilities, and many more. Security is guaranteed based on Prime Vision's encryption techniques, access control and network architecture.

"Different" beats "better" in every way

Prime Vision is a founding member of a very exclusive global club; developers of text and hand-writing recognition technology. There are few developers of machine-print (OCR) in the world and developers of hand-writing (ICR) are an even rarer breed. Prime Vision scores highly on both counts.

Prime Vision never boasts that it is the best in the world; it prefers to describe itself as "different". And that is an important differentiator when it comes to recognition technology. This "difference", or "orthogonality" as it is known, means that for a given input of items, say 100, supplier-1 may read 62% with their recognition technology and supplier-2 may read 65% with their recognition technology. However when the results are more closely examined it becomes clear that supplier-1 and supplier-2 are reading perhaps 40% of the same items, but 20% each of different items. In summary, integrating both together can yield much higher read-rates and lower error-rates overall.



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also be completed as a “live” process and/or a “batch” process. Live refers to video-coding that is completed whilst the item is located on the sorting system, so coding within say 5-40 seconds. Batch refers to video-coding that is completed after the sorting process, typically to add non-sortation specific information to the database records, or sort data enabling the items to be automatically sorted on the next cycle.

This combination of video-coding modules and modes provides postal companies with many benefits in terms of performance, operation and risk management.

Performance – Maximise sorting speed by keying just the sortation specific data live and adding additional data after the sorting process for database enrichment

Performance – Sharing the video-coding workload across multiple sites reduces the amount of video-coding staff required at each location (or centrally) to manage peaks in production

Operations – Centralised and/or remote video-coding offers an easy way to scale-up video-coding resources massively during peak seasons such as Christmas

Risk management – Many “what-if” scenarios, such as what if weather conditions prevent some staff getting to the sorting centre, not enough staff to manage the sort that night. Remote video-coding at other locations means they can take over and help out.

Confidence in support, 24-7 globally:

- Prime Vision’s software and secure access
- PVPM – web-enabled Prime Vision Process Monitor
- 24-7 support desk, manned by Prime Vision’s full-time employees / specialists (not just an answering service)
- Preventative maintenance and monitoring services
- Performance guarantees, service level agreements
- On-site services
- Engineers are also factory-trained to service camera hardware by all the major vendors.



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