The story of
ADPRO - Vision Systems

From left to right:
Andrew Davis,
Group Technology Manager
Bill Younger,
Managing Director
Rob Galic,
General Manager – Operations
Rob Thomas,
Product Marketing Manager

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Vision Systems is a well known CCTV manufacturer, based in Adelaide. For this issue we have interviewed the management of the Adpro division of Vision Systems, one of the most respected CCTV manufacturers globally.

Vlado:

Tell us a little bit about the history of Adpro-Vision Systems, how old is it and how did you get involved in CCTV?

Andrew:

Adpro was formed as a private company back in 1983. It was started by a group of marketeers, who were inspired by their participation in a South Australian innovation workshop. In fact they went on to get the Australian prize for the best business plan, which they had put together, for developing a product-concept from the Department of Defence, which later became the basis for our first Video Movement Detector. That was the seed for their business plan and they got so enthusiastic about it, that they saw the potential for making a business out of it. Then, they formed a company in 1983, and decided to find an engineering company to manufacture their

concept and this is how they found Abell&Co. I was the engineer in that company who got the contract to produce the VMD, so this is how I got involved. Adpro became a company in 1983 and that was the year we manufactured the PRO 1600, 2 to 16 channel video motion detector. This initial product had many features that were later added to, and it did a reasonable job in its time. It was probably ahead of its time in the VMD area, but we were very naive with our knowledge of the market.

Vlado:

Knowing the difficulties with outdoor VMDs, was the PRO 1600 designed with the idea of being an outdoor VMD?

Andrew:

The original idea was to design a VMD to protect airfields in the Northern Territory. Most of these sites did not have many trees around them, very few clouds overall, and

a lot of the time, a very benign environment, so we didn't know all the challenges in making a good outdoor movement detector. Indoors it worked very well and in fact there are quite a few legacy systems still being used in various galleries and the like. We improved the algorithm over the time to work much better outdoors, but for that time our VMD was probably leader of the pack.

Vlado:

So the VMD was your first product really, as I remember seeing it about 12 years ago.

Andrew:

This is how Adpro started and grew as a company. But they didn't want to be a single product manufacturer, and they were not sure whether they should manufacture CCTV products only. The initial investors were interested in floating Adpro as a public company. They also had access to machine vision technology via CSIRO (Commonwealth Scientific and Research Organisation) and formed a company called Vision Systems. They used Adpro as a vehicle to make Vision Systems a public company.

Rob:

... it was in 1985 when this

happened, i.e. Vision Systems became a public company...

Andrew:

The next step, product-wise, was that we produced the colour VMD model PRO 1650C. There were no new products until 1990 other than the PRO 128 that allowed single or multiple points of control of up to 8 PRO 1650's. Then we released our new generation video movement detector, the VMD-10, where we used high speed digital signal processing. The PRO 1600 was a mixture of analogue and digital, but of course it wasn't using the high-tech fast processors, which only became available later.

There were big steps corporate-wise too. This is the time where Abell&Co became a part of the Vision Systems company, so we had a powerful engineering base.

Many advancements in electronics happened then. With the VMD-10 we made a serious attempt to produce a good outdoor video movement detector. Today, we have made numerous software advancements and the newly released Axiom is much more sophisticated, but again, for its time VMD-10 was a market leader.

The real kick to our business was when we released our first Fast Scan transmission product in 1992. This was initially developed as a companion product to the VMD, intended for remote verification of VMD generated alarms, but it grew as a product that could stand on its own. This has been a real corner stone for us for the last seven or eight years. The Fast Scan has gone through some major improvements, we are now releasing the third generation of Fast Scan transmitters, maintaining the high image quality and management features, while further improving the transmission speed and maintaining the compatibility with various CCTV equipment.

Vlado:

I think you actually had a press release in the November issue of this magazine about the Fast Scan Series III. Are there other interesting products?

Andrew:

There are other products which we released after the Fast Scan. An interesting product is also the InSight, which is a combination of multiplexer technology and Fast Scan, but applied to a different market segment. The InSight products combine alarm panel, sensors, video cameras, multiplexer and Fast Scan transmission into one. It is a unique product. We are not aware of anything like it on the market. Because of this it has taken us some time to educate the market, but now we are getting some really positive feedback. Our most recent product release is the Amux, a 20-inputs video multiplexer. The multiplexer market is well established and it takes a lot of effort to produce something new and better, but we believe that with the Amux we have produced a multiplexer that will produce better images than any other.

Vlado:

I must admit I have seen a demonstration of it and was impressed not only with the quality, but also the attractive price. People would usually expect to pay a higher price for a product from Vision Systems. How is it possible?

Andrew:

The reason for that is that we are using the latest technology digital video chips, they offer better performance while reducing the number of components, thus making it cheaper. There are still quite a number of products on the market that use old technology and they have quite a high chip count. There are some manufacturers that use the newer chips, but many of them have compromised the quality in an effort to minimise the cost. I believe that we have chosen the best quality components and the latest technology, preserving, we think, a good price.

Bill:

What we have done in terms of sales organisation is also interesting. Earlier we had sales people with product suitcases travelling around the world. With time this changed too, and in 1987 we opened our UK office. We now have 30 people in the UK, of which 11 are in our own office, and the rest of them in our sister company in the UK. The UK is our strongest market globally at the moment. Vlado:

Yes, I must say that I could not ignore the feeling from a few years back, while reading some UK security magazines, that the Vision Systems name is very popular and strong over there. One could say even more so than in Australia. Here, with all due respect to the high quality products, you seem to be just one of the many good quality CCTV manufacturers. Do you have the same feeling?

Andrew:

This is perhaps due to the fact that UK is the strongest CCTV market per head globally, a very CCTV conscious market. We have been there for quite a few years now and we have a very good reputation in that market.

Rob:

We also have operations in the US now for several years and naturally throughout Australia.

Bill:

We recently opened sales offices with our own personnel in Korea.

Bob:

And we are now opening an office in Germany.

Vlado:

I am not surprised by any of them, except the office in Korea. Knowing the Korean expansion in

electronics and CCTV in particular, one would expect that Koreans would open offices in Australia and around the world and it is not hard to imagine how difficult it would be for someone to compete with them on their own soil. Do you find this expansion profitable?

Bill:

We have been getting some exceptional results, not only in Korea, but North Asia in general. As you pointed out, we are actually playing in their own yard so to speak, and we are doing very, very well. So it is quite encouraging. Our business in that region has grown over 200% in the last two years. In the North Asian market we are just starting to expand. Your observation about the UK is quite interesting. It has been a huge success for us, and we have become renowned in the UK as a leader.

Andrew:

Don't forget we are exporting over 85% of our products and it is not difficult to see the success behind it. We have to be export oriented since the Australian market, although quite good per capita, is very small and quite dispersed. So we have to concentrate on export and the global markets.

Rob:

The Australian position is, as you pointed out earlier in our general discussion about your magazine, very special and valuable. We are, as a country highly aware of CCTV technology and we use it. But we also learn through the process of using it locally and this is how we produce better products and become more competitive globally.

Vlado:

It would be interesting at this point to ask the question of Government incentive. Do you get any?

Bill:

Initially we had support from Austrade (the Australian Government body dealing with exporters), which was a support scheme to assist export initiatives. We are no longer eligible as our export sales exceeds the maximum qualification level. We still have leads coming via Austrade, as was the case with the many projects we won in Europe several years ago, but there is no financial support.

Vlado:

How many employees work for Vision Systems' CCTV division?

Bill:

In CCTV we currently have about 95 people, world-wide. That doesn't include all of the development groups. We subcontract the development within Vision Systems, where a total of 650 people work, and more than 400 of these are engineers, researchers, scientists, etc. Because we have such a large engineering base we subcontract internally.

Rob:

That's one of our major benefits. Within Vision Systems we have ready access to various engineering skills: electronics, mathematics, mechanics, packaging, chemists, physicists, etc.

Vlado:

I am curious about how you actually use those resources? Do you get the engineers together and tell them look this is what we need, come back to us with a solution, or does it work differently?

Bill:

What actually happens is we locate the required engineers within the group, they become part of our business group and physically reside with us during the development period of the product. They are with us throughout the whole period and then, once everything is completed, they go back to other projects or groups. There are not many organisations in the world with that sort of capability, if any.

Vlado:

For the readers that are not familiar with Vision Systems, I should mention the types of products you have produced so far: the Video Motion Detectors, Fast Scan transmitters and receivers, Long Range outdoor PIRs, Frame Stores, the InSight system, etc. Which one of those was the most successful in your opinion and why?

Andrew:

The Fast Scan family products is still one of the most successful. Why? It is a mixture of things, not just the product performance, feature set or quality, but also how we sell it, how we support it, it is easy to use and provides the best picture quality possible. To put it in perspective, we are approaching 25,000 sites with our Fast Scan units.

Vlado:

That is quite impressive.

Bob:
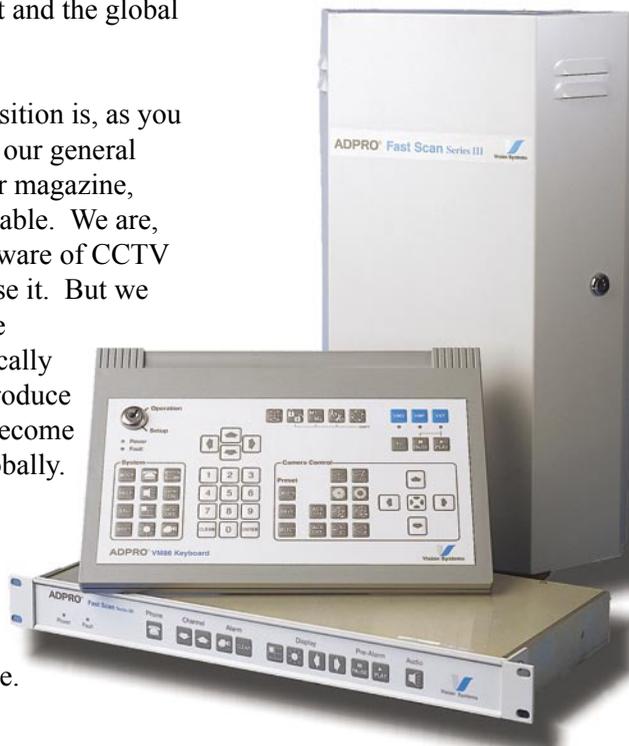
As far as we can tell, we are the single biggest individual manufacturer of such products in the world.

Bill:

We should also add that we do re-badge our products for some of the biggest CCTV manufacturers in the world and that only further

We also have an excellent track record with the robustness of the units, which are designed with industrial quality electronics, not consumer quality.

Vlado:

Could you tell us about some of your customers, i.e. reference sites?

about and decided on our Fast Scan.

Bill:

Another interesting reference site, although local, is the Australian Customs' recent wharves project. The Customs people use VMDs for verification of ships coming to the wharves.

Bob:

proves the quality and reliability of our products.

Vlado:

Can I ask what type of compression you use in the Fast Scan? I have read in some of your brochures that you use a proprietary compression algorithm, but what is it based on?

Andrew:

The compression has been improved over time, but in essence it is based on JPEG with some proprietary modifications in order to more effectively use the bandwidth. We don't compress the first image as hard as some people do, then we send only the changes. This gives us very high picture quality and good update rates over PSTN or ISDN.

Rob:

There are many sites world-wide. Perhaps one of the flagship sites would be British Telecom in the UK with over 300 sites. They now have two major monitoring centres using over 20 of our receivers. BT is also using other products of ours, such as the Axiom VMD and other CCTV equipment, but it all goes through the Fast Scan. The reason for choosing us was based on the extensive research they did on this technology, they narrowed down their selection to 2 or 3 products, one of which was ours. They did comparative testing, took into account all the features we spoke

We also have quite a few important sites in the US. We have a lot of success with the Power authorities where images are captured and transmitted remotely for verification. Also, we have the public housing authorities, and recently a very large communications company called Cox Communications. They own various radio stations and have a large network so they use the Fast Scan transmitters for image transmission.

Vlado:

Perhaps, for the CCTV installers that are not aware of the product we are talking about, we should mention that your Fast Scan transmitter/ receiver is a stand-alone box that transmits not only images, but also

audio, data and alarm I/O via the same established communication link, be that a telephone line or ISDN, or whatever else is used for communication between two remote points.

Andrew:

That is correct. Our unit is a stand-alone unit ready to be plugged in and to work. If you need audio, you can use the same channel as for video, there is no need for a separate link like some other manufacturers do. Our unit does not run on PC's and hence does not depend on the stability of their operating system or other third party software. We have built in hardware watch-dogs and if for any reason the communication or power fails the system restarts and recovers successfully in seconds every time. This is of course extremely important in high-end security applications.

Vlado:

How do you cope with the technical support for all the people out in the field?

Bill:

We have 24 hour-7 day support over the phone. But we also train

our sales people. We know how important is the assistance required by the installers or distributors and we are always available for any type of inquiry.

Rob:

Mind you our product quality is such that we don't get many of the units back for service, but we may have an installer having a particular installation problem in the middle of nowhere and we are always here helping them step by step.

Bill:

For example, we recently had one of our sales people in Melbourne who was called at midnight on Friday to help with an installation. He got all the manuals and went on site without hesitation. By 3 o'clock in the morning they had completed the installation and the system was set-up properly. Such commitment is derived from our support to all of our sales team, who are confident in the equipment, and with our unreserved support of all the people using our equipment.

Vlado:

We have come to our question of the "digital hype." What do you think of all digital CCTV?

Andrew:

I have published in various magazines (including CCTV focus) some things on digital CCTV on which some people agree, some don't. There is no doubt there will be an increase in the use of digital signal processing of images. All our products have, from day one, used digital signal processing in one way or another. The majority of cameras in CCTV, as you know, have digital signal processing but still have only analogue outputs. Of course the full advantage will come when there is no switching between analogue and digital. We expect more fully digital cameras to appear on the CCTV market. Our view is that we will move to fully digital in various parts of the chain in the signal path at the time that is most beneficial to the customer. It is fair to say that there are some products there, costing substantial amounts of money, that can provide excellent end-to-end almost fully digital solutions. But it is also true that a lot of people are riding on this digital hype and provide products that are substantially inferior in quality to, say, the better analogue multiplexers and VCRs.

We will be in the digital recording market - there is no question about that.

Of course I can't tell you the date when this will happen, but we are working on it, and, as it is expected from Vision Systems, when we provide the product it will be the best value for money for the

high-end customers.

As some of our colleagues have said, we want to be on the leading edge of technology, but not on the bleeding edge.

Vlado:

Well, my last question is then what do you think about the future of CCTV, what are your future plans and which direction we'll see Vision Systems going?

Bill:

We'll remain focused on security, not necessarily surveillance. Security is our primary focus and the products we will develop will be complementary. On one end you have cameras, on the other display monitors. We can't see ourselves at the camera or monitor end, but for all that smart stuff in the middle, that's where we see ourselves playing the game. We hope we will continue to be the leader. We will definitely address the high-end customer. We will remain the innovators, and, as I said earlier, our products will always be complementary. We will differentiate ourselves and our products through the value we ad to the customer. This is our global, strategic view, and I am sure Andrew could add something to it from the product point of view.

Andrew:

Yes, I think in terms of that strategy too, in terms of what the customer wants CCTV to do. As we see it this means that CCTV can be a guard-force multiplier or a man-power reducer. Either way it offers more cost-effective security with more useful information. Our philosophy is not to overload people with the information, but rather to provide system management by exception reporting. For

example, as we spoke earlier with digital video recorders, yes many do offer fast and random access to the recorded image, but if you don't know exactly what and when you are looking for it can be still time consuming to find it. For us to enter that area, we would want to offer a leading advantage by having a better management process.

In terms of where we are going in the near future, as I said earlier, there is a definite trend towards digital video. Cameras will be getting digital, with some sort of serial digital output. It will be interesting to see how the standards develop for the signal from the digital camera to the monitoring point. There will be definitely a mixture of coaxial cables with analogue video and digital video for at least another five years. One thing that I don't think we will see becoming mainstream in the near future is digital surveillance cameras being plugged directly into corporate data networks. Technically yes you can do it, but too much of

the bandwidth will be consumed through the corporate IT networks unless picture quality or update rate is severely compromised. And those infrastructures won't change overnight. I know of some people that have tried to do something similar, but they have very quickly choked the traffic on the network. What is more likely we'll see in the future is private, dedicated surveillance networks, security, access control, building management and fire networks, which will be interfaced to the IT network for exceptions reporting.

Another interesting development will be a dedicated operator environment, with a single point of control, and getting away from multiple keyboards and buttons to an intelligent GUI (Graphical User Interface). Now, some people may say this has already happened, but I am talking about integrating all of the systems with a simple and intuitive GUI. While we haven't been big embracers of PCs for our core product, which are devices on remote sites that have to be unattended, robust, reliable, etc., we think PCs are very useful tools for managing the human interface, if it is done properly. At the moment many human interfaces today are programs written by computer gurus for computer gurus with multi-layered menus where you can easily get lost. There is still room for a proper PC interface. We will see various "system boxes" all controllable and reporting to such PCs.

Vlado:

Gentlemen, thank you all for your invitation to come and see Vision Systems with my own eyes, thank you for your time and I wish you all the best in the year 2000. ∎