

GAUTRAIN PROJECT TO PLACE MORE FOCUS ON VEHICLE SECURITY ISSUES

Vehicle security at public facilities such as airports and stations, has long been an issue. The 10 Gautrain stations along the route from Hatfield, Pretoria in the north to Park Station in the south and O.R. Tambo International Airport in the east, should ensure that parking security will continue to be an issue over the next three years while construction of the R25-billion Gautrain rapid rail link continues, currently the biggest rail project under construction in the world.

Fortunately, technology in the field of automatic number plate recognition (ANPR) continues to gain ground and is being used in South Africa with increasing success to reduce vehicle theft from public parking facilities. Within the overall Gautrain system, CCTV equipment, including many hundreds of cameras, will be deployed for security purposes and crime prevention.

Protoclea Advanced Image Engineering, which specialises in CCTV and image processing technology and systems, as well as in creating intelligence from images, designed, manufactured and installed the SINON electronic on-line surveillance system to monitor and secure the parking facilities at O.R. Tambo International Airport for ACSA.

“This system, probably the largest parking security installation in the country, has achieved significant success and ACSA has gone on public record to acknowledge that,” says Protoclea managing director Dr Bennie Coetzer.

The Protoclea SINON licence plate recognition system includes ANPR and other cameras that are deployed to secure the parking areas and cover the 44 entry and exit lanes. The parking facilities cater for up to 20 000 vehicles a day.

Some of the pitfalls that Protoclea ANPR technology has overcome include blurring of the number plate characters as a result of poor focus or vehicle movement and acute presentation because of poor camera angles and low contrast.

“Licence plate numbers can be obscured because of vehicle headlights or reflections from the sun and many other factors may also influence the clarity of the images,” says Dr Coetzer. “There are many variations that affect lighting conditions, not the least of which is the retro-reflective nature of modern number plates that results in light being reflected directly back to the light source.”

As a result, special ANPR cameras have evolved that are sensitive to an infrared illumination source which eliminates other light reflections or refractions in both daylight and under other illumination at night.

Number plates from the various provinces display different symbols in addition to characters and figures. Typically, Gauteng number plates include the provincial coat of arms. Other provinces have similar embellishments and the ANPR system can be configured to be able to read these as an integral part of correct identification.

Depending upon the degree of access control/security required, a colour camera can be added below or adjacent to the ANPR camera system to clearly identify the colour and type of vehicle as well and this image can also be stored in the database and linked to the number plate file. This allows rapid checking against false number plates.

Dr Coetzer adds that systems can be configured to give a range of functionality to suit different applications and needs. These include the ability to add notes to the image files and the determination and display of the length of time a vehicle has been on site. It is also possible to provide a full list of all the vehicles and their registration numbers on the site at any given time, the software automatically separating out from the list those vehicles that have left the site at the time the list is processed.

The system at O.R. Tambo International Airport is also fully integrated with the Airport's pay-on-foot system by which visitors pay for their parking at numerous automatic payment machines stationed at pedestrian entrances to parking areas.

Note to Editors: Protoclea (Pty) Ltd, trading as Protoclea Advanced Image Engineering, is a wholly South African company, formed in 1987 and headquartered at Lonehill, Sandton. Protoclea Advanced Image Engineering specialises in image processing, data communications and digital CCTV surveillance systems and components for defence, commercial security and specialised imaging applications. Protoclea provides system engineering, high-speed digital design, image processing, embedded software design, digital signal processing, high level software design, data communications and general RF communications.

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