5 key challenges for vehicle access control

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5 key challenges for vehicle access control and how to address them

Securing a perimeter gate, and other vehicle access and exit points, requires careful consideration. It's not just about keeping unwanted people out. It's about allowing convenient access, keeping traffic flowing, maintaining safety, meeting regulations, monitoring and tracking movements – and much more. Therefore, it is important to understand what challenges you may encounter as a security professional and how to address them.

In this paper, we look at the top 5 challenges when it comes to vehicle access control:

1. Providing the right level of security.
2. Optimizing traffic flow.
3. Identifying different users quickly and easily.
4. Avoiding delays at the entrance.
5. Identifying vehicles for enterprise resource planning (ERP).

We outline how long-range automatic vehicle identification (AVI) can address these challenges with the use of different technologies like touchless tag readers and license plate recognition.

Let's look at each challenge in more detail.

1. Providing the right level of security

A growing number of security threats and safety concerns mean that more sites than ever need to upgrade their security. Gated vehicle access points are typically where visitors move from public to private space – so it's crucial that protection starts at these points to prevent unauthorized vehicles and drivers from entering. Yet security for a site's outermost entrances is often overlooked.

It is a balancing act, though. You want to prevent unauthorized access and may need to comply with various regulations and policies. But how do you achieve that while preventing traffic congestion and providing a welcoming, convenient entry process?

Good-quality, long-range AVI products can identify vehicles (and drivers) highly accurately – even when they're travelling at high speeds. Many can also be integrated with systems for controlling physical access to buildings. This lets you maintain convenience for drivers while you also:

- Set optimum security levels for your needs at each entrance and exit.
- Extend your physical access control policies to vehicle entrances and exits.

Long-range AVI in action

Heron Bros Headquarters in Ireland steps-up car park security

When redesigning its car park, property developer Heron Bros wanted to increase site security, while maintaining optimal traffic flow. The team wanted to be able to authorize entry, and control vehicle exits, without drivers having to stop to present a pass. To achieve this, they installed high-end, long-range readers that can identify drivers and their vehicles securely and simultaneously as they drive past. This lets them keep a tight control on security without delaying drivers or creating traffic congestion. [read more]

2. Optimizing traffic flow

Some sites, like office environments, attract lots of traffic at peak periods, such as at the beginning and end of the working day. While others, like industrial plants or logistics depots, often have a steady flow of different kinds of vehicles arriving, leaving and moving around the site throughout the day and night.

In both these scenarios, optimizing traffic flow is a challenge that needs to be overcome. Otherwise, the results can include congestion, which can affect productivity and create frustration as people are unable to get on with their day. Poorly managed traffic flow can also lead to safety issues such as vehicles crashing or entering hazardous areas.

At both entry and exit points, and other points throughout a site, you can use long-range automatic vehicle identification to:

- Control which vehicles go where.
- Keep traffic moving to prevent congestion.

Long-range AVI in action

Heathrow Airport (London) keeps close control of taxis

Busy transport hubs like London's Heathrow Airport, attract high volumes of taxis. Which, if not managed well, can caus gridlocks that prevent travelers from progressing with their journey. The British Airports Authority uses long-range automatic vehicle identification to control and track taxi access. Only licensed taxis, driven by authorized drivers, are allowed to pick up passengers. And can only do so in designated areas of the terminals. To regulate this, taxi lanes are equipped with long-range readers that identify the taxi and its driver via a tag inside the vehicle. This helps to prevent congestion and ensure a smooth, timely flow of taxis across all terminals, reducing waiting times at the ranks and improving safety and security. [read more]

3. Identifying different users quickly and easily

Many sites welcome lots of people across multiple categories each day. This can include employees, contractors, suppliers and visitors, who may have different access rights and use different kinds of credentials.

Checking multiple types of credentials and authorizations manually can create lots of extra work for security professionals. As it can be time consuming, it can also prevent traffic flowing smoothly. So how can you manage access efficiently and securely for a wide variety of vehicles and drivers? Especially if different user groups use different credentials?

Long-range automatic identification lets you quickly identify an unlimited range of vehicles and drivers, without manual checks. Even if you provide different credentials for different user groups. This means you can:

- Provide a contactless entry process that's both fast and secure.
- Reduce costs, as fewer people are needed to secure entrances.

Long-range AVI in action

Forte Partners integrates technologies for flexible identification in Romenia

To enable access to the car park, building, and lifts, Forte Partners sought a solution where employees could use a smartphone app and visitors could use QR codes at U-Centre, a contemporary office complex in Bucharest. To achieve this, Forte Partners integrated multi-technology readers with U-Centre's access control system, and Automatic Number Plate Recognition cameras. This lets them provide the high level of convenience, security and flexibility they want to supply for their visitors and employees. While also providing hygienic, touchless access control for all, and enabling active management of their car parking spaces. [read more]

4. Registration without delays

For many sites, everyone arriving at the vehicle entry gate needs to be registered and have their identity checked. The reasons for this can include checking if they're authorized to enter, complying with regulations and enabling easy tracking if there's an incident. Where high levels of security and safety are needed, it's particularly important these checks happen consistently and accurately.

If security professionals have to perform these checks manually, it involves each driver stopping as they arrive. This can lead to queues forming at the entrance, especially during busy periods –when the working day begins, for example, or a shift starts. The inconvenience caused for drivers can ultimately affect productivity, morale, brand image and more.

You can prevent queues forming at perimeter gates by using long-range automatic vehicle identification that lets you:

- Quickly identify and register each vehicle (and driver), without them stopping.
- Provide a fully automated process that frees up time for security professionals.

Long-range AVI in action

Prologis in Mexico uses ANPR readers to prevent queuing

At six of its busy industrial warehouse and distribution centers in Mexico, Prologis wanted to prevent queuing by allowing easy entry for employees and visitors. While also ensuring the right level of security and collecting data to help optimize its logistics processes. They achieved this by installing long-range Automatic Number Plate Recognition readers. Vehicles can be quickly and accurately identified from a distance, without drivers having to stop or security professionals being involved. The data is then logged automatically, ready for analysis. [read more]

5. Identifying vehicles for enterprise resource planning (ERP)

In some businesses, one of the key values of identifying vehicles is so they can be registered and tracked. This kind of monitoring and data can be critical when, for example, planning deliveries, using weighing bridges or ensuring high levels of safety on sites that are hazardous or feature fast-moving vehicles.

You need to find a way of doing this without hampering efficiency or productivity, though. So how do you identify and track vehicles (and drivers) accurately – especially if there's lots of traffic across the site and vehicles are moving at considerable speed?

Using the right kind of long-range automatic vehicle identification at key locations lets you identify vehicles and their drivers simultaneously. Good-quality products will let you:

- Accurately identify vehicles travelling at speeds of up to 200 km/h.
- Collate real-time data for use in planning and validation.

Long-range AVI in action

Valuable data from real-time tracking at Australian mines

At Australia's largest mining operation, long-range identification products monitor and authorize over 1 billion litres of fuel transactions each year. As data is only as reliable as the instruments measuring it, extremely robust RFID readers were installed at hydrocarbon storage tanks across 50 mining sites. Each vehicle or piece of equipment authorized to refuel is also equipped with a heavy-duty, ATEX-certified tag. This means all fuel transactions into and out of the tank can be registered. Which provides accurate, real-time fuel usage data, pinpointing where fuel dollars are being spent and enabling detailed stock management and budget forecasting. [read more]

Expert help on hand

Those are the key challenges for vehicle access control – but how can you overcome them? Nowadays, a wide range of technologies and products are available to enable authorized vehicles (and drivers) to proceed through entrances and exits without stopping – and yet still be identified, registered and monitored.

With over 30 years' experience in long-range automatic vehicle identification, Nedap has a deep understanding of the challenges outlined above. To address them, we've developed a comprehensive product portfolio using a variety of technologies, so you can choose the best vehicle access control products for each situation. We also provide specialist support for industries and settings including airports, ports, mining, residential, government and education, enterprises and office buildings, industrial and logistics.

Our product portfolio includes the following technologies:

- Passive UHF RFID: allows data to be read from a long distance, wirelessly and provides high levels of security.
- Semi-active RFID: gives flexibility, convenience and ease for a wide range of vehicle and driver identification applications.
- License plate recognition: a convenient option for secure vehicle access control for a wide range of applications.
- Multi-technology readers: A versatile, cost-effective option for visitor management with a wide variety of technologies.

To achieve the exact set-up you need, you can combine products and technologies. For example, you might want to combine multi-technology readers with ANPR cameras. Or you might want to use heavy-duty identification tags for contractors' trucks and smartcard boosters for office employees.

Far-reaching benefits

The benefits to be gained from using long-range automatic vehicle identification are wide and varied. These can be summarized as:

- Optimized traffic flow into and across your site.
- Reduced costs and increased efficiency.
- Fast, safe access for vehicles and drivers.
- Touchless identification for increased hygiene.
- Highly accurate identification for secure access control.
- Registering, tracking and tracing vehicles and drivers.

Need some expert advice? We’re always happy to help. Just get in touch:

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