

FENCING TIMES

UK & Ireland

2023, Issue 10



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50th anniversary**

**New vehicle
sensor by Optex**

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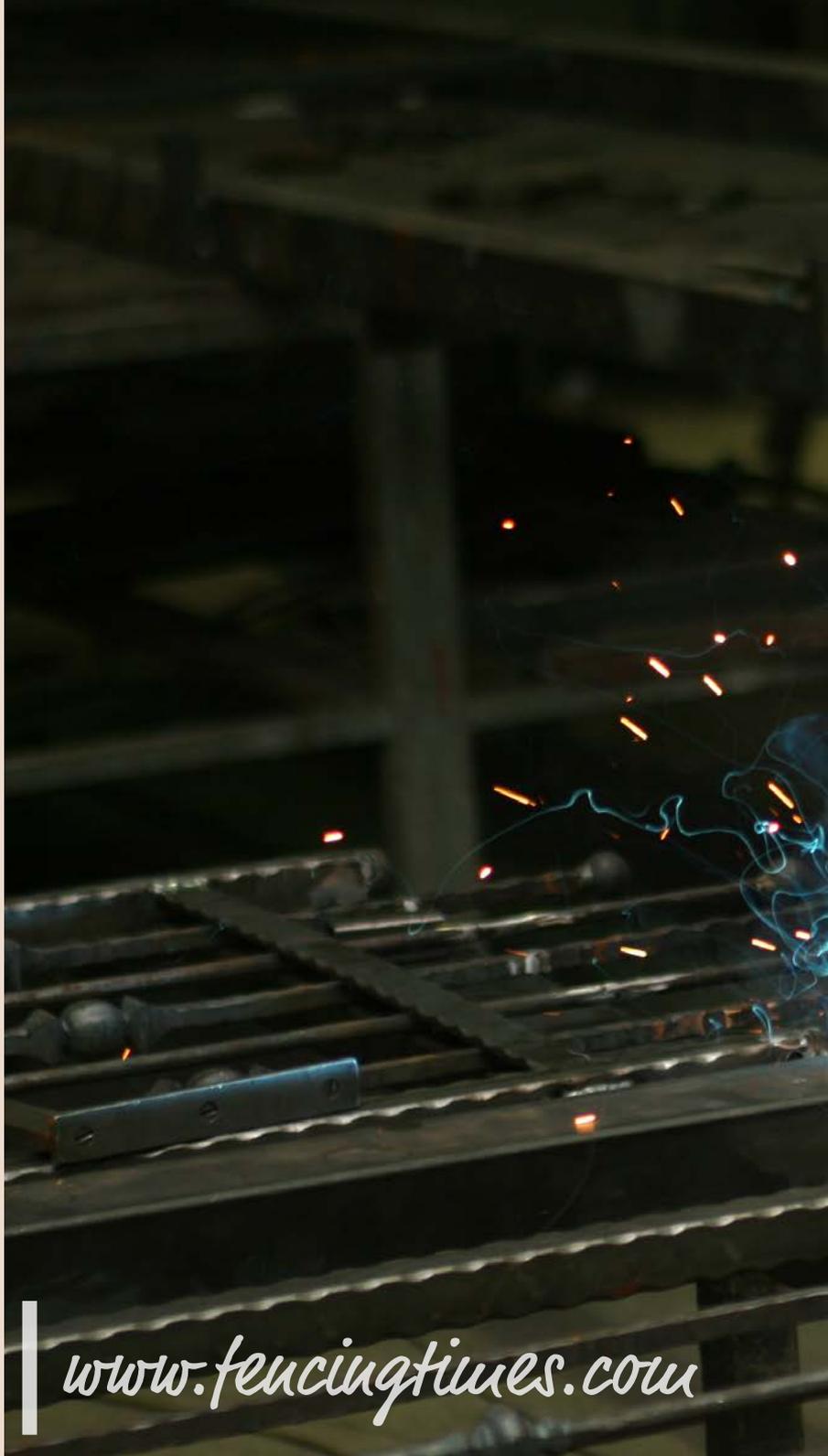
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Fencing Times

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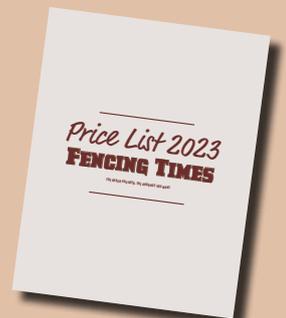
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That playground has to be fenced

In a previous column I wrote about super-installers, and all the things you can do to become one. One thing I didn't mention – because it really should go without saying – is the importance of a pleasant, healthy working atmosphere.

It's something that's easily forgotten amid the hustle and bustle of daily life. The council's amenities manager wants that playground fenced tomorrow because the day after tomorrow it's going to be officially opened by the mayor, and on top of that Mrs Johnson has assured us most emphatically that she's going to give us a bad review on Google if that stupid blue fence of hers isn't installed tomorrow.

On top of that, a healthy working environment is a bit of a vague concept. It's not something you can measure. It doesn't boost your Google rating, and the accountant isn't bothered about it either. These factors mean that improving the work environment is never at the top of your to-do list. But that's the danger right there.

Because a healthy working atmosphere is a bit like a flower bed full of bright and fragrant blooms. You have to tend them carefully as they grow, over time, bit by bit, and give them a little water every day. If you don't water them for a few days, they'll start to droop. Leave them for a few weeks, you'll end up with a whole lot of weeds. Because weeds will grow no matter what.

And weeds choke out all the flowers. It's incredibly demotivating. Everyone in the company becomes more unproductive, slowly but surely, until eventually no one really cares about how many metres are put in the ground or how many Google stars you get from Mrs Johnson.

There are hundreds of things you can do to create a good working atmosphere in your company, if you don't have one already – and to make sure it stays that way. Most of them are only small; things that you can fairly easily introduce into the way you manage your business.

For example, as the boss, make sure that you're always approachable. Be there on the job when your installers arrive. Ask questions, and show interest in the answers. 'How did the job go?' But also: 'Got anything nice planned for the weekend?'

This makes your people feel like you take them seriously. That they can share things with you, can trust you. And when you know what's going on behind the scenes, you can take action accordingly.

Always set a good example, and never make jokes at other people's expense. Fencing installers are not overly sensitive souls and can put up with a fair amount of banter (certainly from each other). But if you, the boss, join in, then you're giving it the OK and the gloves are off. Then the jokes can get out of hand, which in turn leads to unhappy colleagues.

Another important point: be clear about your expectations. The clearer, the better. It makes it easier for your staff to meet those expectations. On top of that, it means there's less discussion afterwards – and therefore less dissatisfaction.

The list is endless – just take a look on Google. You'll find a hundred sites full of tips, and those tips are different on every site. Most of them can be implemented in your business right away without much effort or expense; all you need to do is take a moment or two to think about it.





There is one, though, that takes a bit of time and effort: throw a party for your staff now and then. Take everyone out to dinner or to the pub, or get a few crates of beer and some sausages and fire up the barbecue.

Now, as we head towards the end of the year, is an especially good moment. Even if you don't actually have time for it, because you've just had another call from Mrs Johnson. Her stupid blue fence can always be installed next week. If the restaurants are all fully booked for Christmas already, then make it a party to celebrate the New Year. Just organise something.

It's important to celebrate together now and then. Not only does it send the message that you appreciate everyone's hard work, but it also gives colleagues the opportunity to relax and have a laugh together without having to think about work. Without feeling stressed about that playground, which has to be fenced today.

People place more value on it than you might think. Sometimes they look forward to Christmas all year. The lights and decorations come out sometime in mid-November and the house is decorated, in the leadup to two or three days of enjoyment with the family. A time when everyone comes together. Laughs at each other's jokes, but also listens to each other's problems.

And if it's important for families to spend time together, then it's even more important for colleagues to spend time together. Your colleagues are your second family – you often spend more time with them than you do with your own family. You have a lot more experiences together, too. You have to solve more problems together and you're constantly under time pressure, because that council

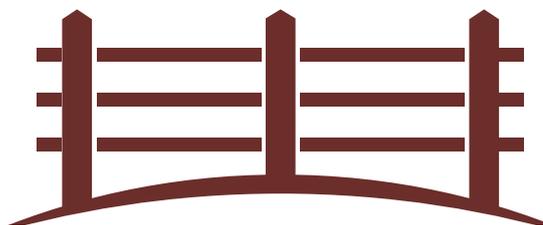
playground has to be fenced this week. And all of that with no family bond with your colleagues to fall back on.

Enjoying a pleasant evening at the pub or in a restaurant gives you a chance to laugh together. Employees can whinge about that time (or times!) you pushed them too hard in the past year. And you yourself can complain about annoying customers and the invoices they haven't paid. You can put all the irritations behind you and start again with a clean slate. And you can get to know your colleagues better, meaning that it will be even easier to get along with them next year.

So: if you haven't yet got together with your team: choose a date, and book somewhere now. If the boss doesn't do it, then go ahead and book it with your colleagues, simply because you've earned it. And then invite your boss as well, because he's earned it too after a year of being your boss.

We on the editorial team wish you a very happy festive season – both with your colleagues and your family – and then a good start to a fresh new year. May 2024 be a year full of joy and happiness, with lots of super-straight fences, super-satisfied customers, and supersized tips. A year of good health, with no illness and, especially, no industrial accidents. Preferably also a year of financial prosperity, with more profit and with big bonuses for all colleagues.

Until next year!



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FENCE POST



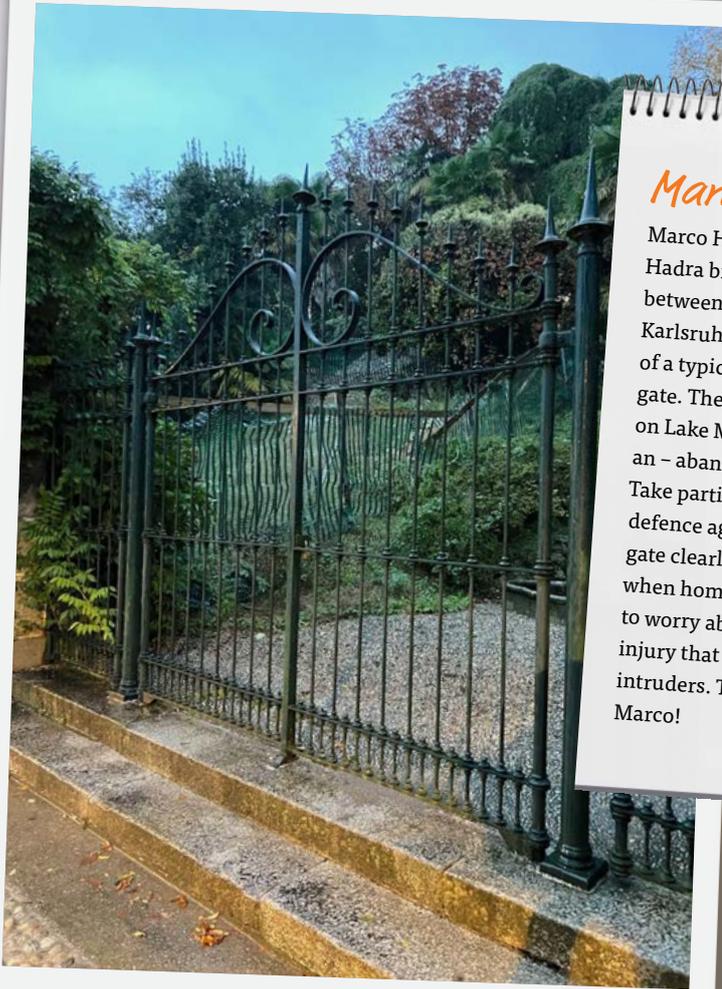
Michael @ Voerde

Michael Margciok of Zaunelemente Voerde in Voerde, near Oberhausen, sent us these photos. "Check this out, I've found the world's smallest fence," he wrote. And he's absolutely right - this tiny fence wouldn't be out of place at Bekonscot in the UK, Madurodam in The Hague or Hamburg's Miniatur Wunderland - except for the fact that it's not actually a fence; it's a boot scraper. Back in the days before cities had paved roads, when horses were the most common form of transportation, you'd find a boot scraper like this out the front of every grand house in the city for visitors to scrape the mud and manure off their shoes. Over time, as the dirt roads were paved and motor cars replaced horses, boot scrapers disappeared from the cities, but you still come across them in the countryside - especially in areas where there are dirt roads or lots of horses. Boot scrapers come in all sorts of shapes, and this one does look an awful lot like a fence. Thanks for the photo, Michael!



fencepost@fencingtimes.com

Have you got a tip for us? Or taken part in something great that you want to share with the market? Spotted a beautiful fence or a beautiful gate? Or perhaps a really ugly fence, which you turned into a great photo? Let us know and share it with your colleagues in the sector.



Marco @ Hadra

Marco Herzog from the Hadra branch in Philippsburg, between Mannheim and Karlsruhe, sent us this photo of a typical Italian ornamental gate. The gate is in Laveno on Lake Maggiore, in front of an - abandoned - mansion. Take particular note of the defence against climbers; the gate clearly dates from a time when homeowners didn't have to worry about any potential injury that might be caused to intruders. Thanks for the photo, Marco!



Reinhard @ Bauwauu

Reinhard Just, of Lüdenscheid-based parts manufacturer and wholesaler Fritz Baumann, has built a special Christmas tree for this year's celebrations. "This tree won't lose its needles and is 100 percent recyclable," he laughs, before wishing all readers a very happy festive season and lots of jobs in the new year. The same to you, Reinhard!



Ali @ Durmishi

This photo comes from Ali Durmishi of Durmishi Garten & Zaunbau of Homburg, in Saarland. The fence that he and his team installed looks like a simple twin wire fence, but it's on a slope and has double panels in some parts, so it can serve as a gabion. Nice job, Ali! Thanks for sending us the photo.



Mirelle @ Hofman

Mirelle Hofman of Hofman Hekwerken in Zoetermeer was on holiday in Scotland with her husband Michel when she came across this fence in Edinburgh. "It's always a wonder, the way something like this comes to be," she writes. "How long has it taken this tree to swallow that fence whole?" We have no idea, Mirelle. Perhaps one of our readers knows a bit about trees and can tell us? It's nice to see the stereotype reinforced yet again: fencing installers can't go on holiday without checking out fences. Thanks for your submission!



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Photo of the month



This issue's photo of the month comes from us, just for a change. Because what does the editor of a fencing industry trade magazine do when he's in London for a weekend? Does he do the tour of Buckingham Palace? Does he go to watch the Changing of the Guard out the front? No, nothing like that at all. Naturally he checks out the fences and gates around the forecourt. Yes, fences, because there are another two or three fences like that there. There's been a bit of fuss in the UK recently over how much the Royal Family costs. The official cost is 86 million pounds sterling, but estimates of the actual cost to the British taxpayer range from 300 to 500 million pounds. When we saw this fence, we could see why. It looks like the entire annual yield of an African gold mine has been smeared on these fences. It must have been an incredible project for the fencing installer who made these. How long would they have taken to weld and forge?

Have you seen a great fence or gate somewhere? Send it to fencepost@fencingtimes.com for the chance to win a builders' radio from Locinox.





Optex produces new vehicle sensor

Japanese sensor manufacturer Optex has launched a new vehicle sensor. The OVS-02GT detects vehicles from a distance of 8 metres and with an approach speed of up to 35 kilometres per hour. *“Our first vehicle sensor was in response to the demand for an easily applied, above-ground solution for vehicle detection,”* says Toshiyasu Matsuyama, business development manager at the Japanese headquarters. *“The OVS-02GT is a further refinement to that sensor.”*

Optex’s above-ground vehicle sensor is a radar-guided detector. It was developed to provide an alternative to the induction loop, for use in situations where the latter cannot or should not be installed. *“The sensor is ideal for locations where the road surface should not be damaged, or has already been damaged,”* says Matsuyama. *“The detector is also useful even in places without any road surface such as an unpaved road or where the road floods regularly. We’re seeing the sensor deployed more and more often in locations where an induction loop would have been quite possible but the sensor wins out because it’s really simple to install, with no need to dig or cut trenches in the asphalt. You can simply fix the sensor to a post, wall or barrier housing and the total installation time is up to three times faster.”*





The new OVS-02GT joins the range alongside the existing OVS-01GT. Both vehicle sensors are designed to detect vehicles but ignore pedestrians. *“The new sensor has a bigger range,”* says Lucien Blom, sales manager at Optex Technologies’ European headquarters in The Hague. *“Rather than 5 metres, we can now detect vehicles as soon as they are 8 metres away. Furthermore, the detection speed has been increased to 35 kilometres per hour and the opening angle widened to 96 degrees. Finally, the OVS-02GT can be easily configured using an app. The app also allows you to save settings – if you want to install several units with the same settings, you can reuse the same settings each time.”* The sensor works on 12 and 24 volts, so you can power it from the gate’s or barrier’s control board. An additional output allows the sensor to be coupled with warning lighting, for example. There is a built-in heating element that keeps the electronics warm under frost conditions and the sensor is water-resistant in accordance with IP66. ■



BXV Plus new sliding-gate drive from Came

Came, an Italian manufacturer of access control systems launched a new sliding-gate drive this summer. It's an extended version of the existing BXV drive, named BXV-Plus. *"The Plus variant makes it easier for the installer to fit the drive and connect accessories,"* says Marc Daub, marketing manager at Came's German branch in Stuttgart.

The BXV Plus makes use of the ZBC1 controller. It features a connector for the Came Key, a Wi-Fi dongle that provides a local connection between the controller and the installer's phone. The installer can then use an app on his phone to carry out the installation. *"This is done using a handy wizard,"* says Daub. *"The wizard ensures you don't accidentally overlook a setting and makes the configuration process faster and easier."*

The BXV Plus controller also features BUS connectivity. *"Each accessory can configure itself with the CXN BUS and give feedback,"* says Daub. *"Moreover, BUS technology simplifies the installation of accessories as you can connect them to each other and not necessarily each one individually to the control unit. The new control unit's electronics are also able to continuously analyse the forces acting on the gate. What is referred to as Adaptive Speed and Torque Technology enables the BXV Plus – depending on the parameters specified during installation – to adjust the motor speed and torque."*







This allows the controller to ensure that the gate leaves always open and close at the same speed, even in different weather conditions – or if the environmental conditions change over time.” Moreover, the controller operates at a low speed when opening and closing. “That preserves the drive and is quiet.”

The controller has four separate safety inputs to which safety contact strips with 8.2 kilo-ohm can be directly connected. “This saves on external switching modules and simplifies the installation.” For integration into a smart home, the drives can also be connected to the internet using an optional Connect Gateway. This allows the gate to then be opened via Alexa with a voice command or via an app. The new BXV Plus is designed for the residential market. Three versions are available: for sliding-gate leaves weighing up to 400, 600 or 1000 kilograms. ■





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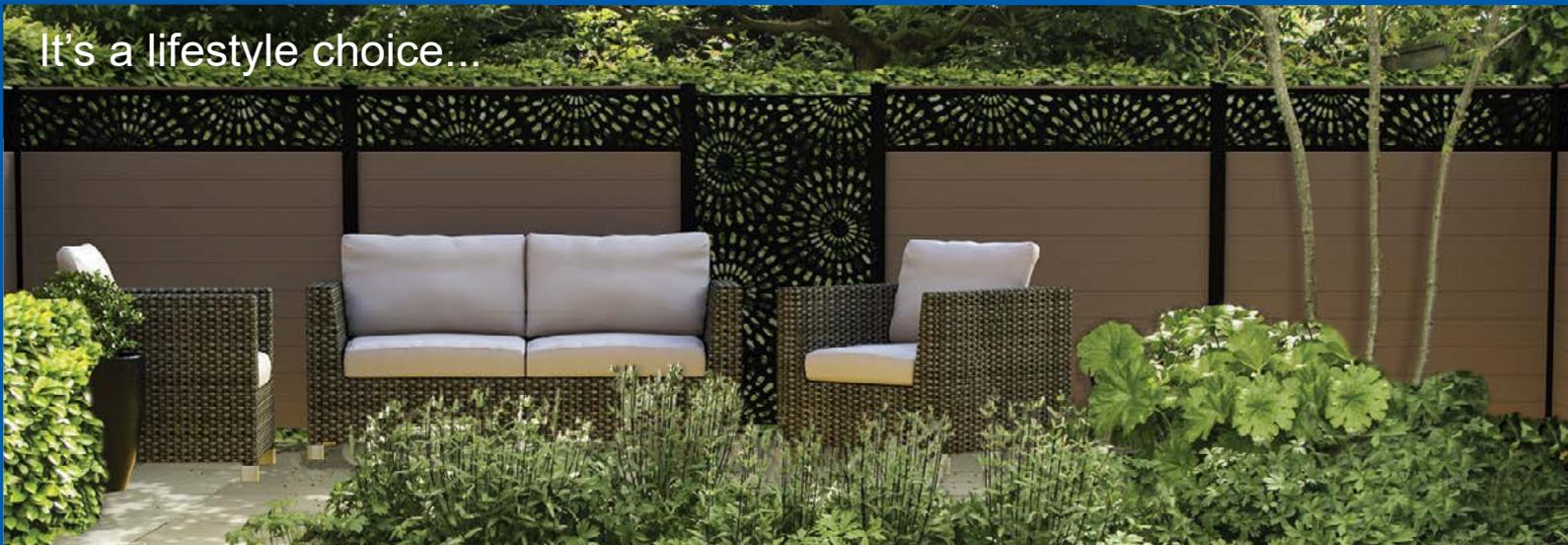
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Automatic Systems launches barrier with folding skirt

Automatic Systems, a Belgian manufacturer of products such as barriers and turnstiles, is based in Wavre near Brussels and launched a new barrier with a folding skirt earlier this year. The BL46 has a passage width of up to 7 metres, and is intended as an alternative to swing and sliding gates.

“With the classic solution that combines a gate with a barrier, during the day intruders can simply walk past the barrier,” says Stephan Stephani, manager of the Automatic Systems branch in Unna, Germany. “For this reason, we’ve now launched a barrier with a sturdy skirt. It’s so strong that you can use the barrier as an alternative to a gate.”



Stephan Stephani



FOLDING SKIRT

The BL46's folding skirt is made of aluminium strips. There are two horizontal strips the same width as the barrier that serve as upper and lower beams. Then there are vertical strips stapled to these, as well as being mounted to the barrier itself. "We assemble the folding skirt at our factory," Stephani says. "It's not a kit. In the factory we can customise the shape of the lower beam so it matches the curve of the road or the kerb. We can mount razor comb security spikes to the top and, if required, we can extend the folding skirt to above the housing as well. This creates a secure blockade that keeps all unauthorised persons out."

APPLICATIONS

Stephani says that the folding skirt barrier is suitable for all locations in which not only vehicles but also people need to be kept out. "The barrier is an alternative to a gate," he says, "but then we're talking about a gate that doesn't need any extra space on either side, because the barrier opens upwards – and on top of that, a gate that opens quickly. The BL46 is especially useful in the logistics sector, where there's a lot of traffic and there are strict requirements that have to be met in order to be considered a secure shipper."

SPECIFICATIONS

The BL46's housing is made of folded and welded steel sheeting of 3 to 8 millimetres thick. The axle is exactly in the middle, and the boom holder is U-shaped. *"The holder is attached to the axle on two sides,"* Stephani says. *"The advantage of this is that not only can you have the boom open to the left or to the right, but you can also decide whether you want to mount it to the inside or the outside. It means that you can adjust the barrier and the folding skirt to suit any situation."*

For security, the BL46 is equipped with a laser scanner on both sides. This scanner can also be used as an intruder-detection scanner. The controller has a built-in weekly timer, and you can use it to set separate speeds for opening and closing. You can also connect the controller to the internet, enabling the boom status and any error messages to be read remotely. The BL46 has been calibrated and tested for continuous operation. ■



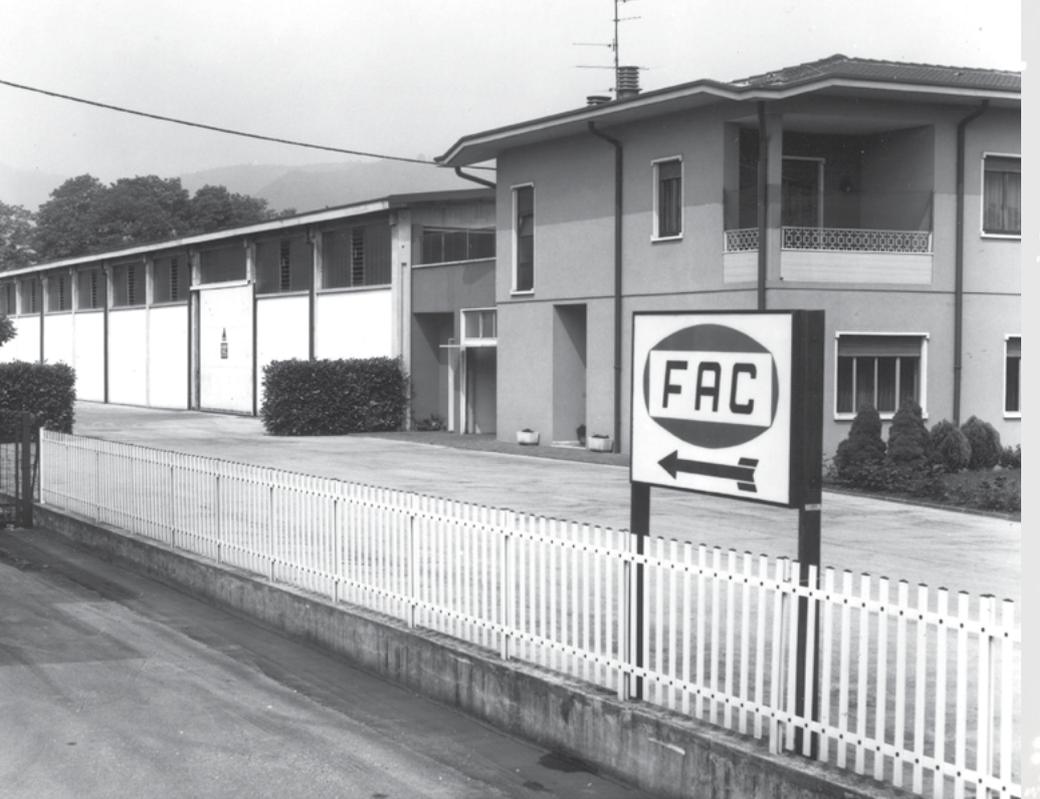
FAC celebrates 50 years

Italian gate component manufacturer FAC is 50 years old. Bruno De Marchi founded the business in 1973 in Isola Vicentina, a small town north of Vicenza. The anniversary was celebrated in October with a big party.

FAC stands for Fabbrica Accessori Cancelli. De Marchi started out in a small workshop, manufacturing mechanical components like centre stops for double swing gates on rails. “Our father was a true developer,” says Maria De Marchi, who now heads up the company alongside her sister Anna and brother Lorenzo. “The manufacturing department constantly had an atmosphere of improvement and ongoing development. Components were looked at time and time again to see whether they couldn’t be improved just a little bit more – and new parts were constantly being devised and developed too.”







GROWTH

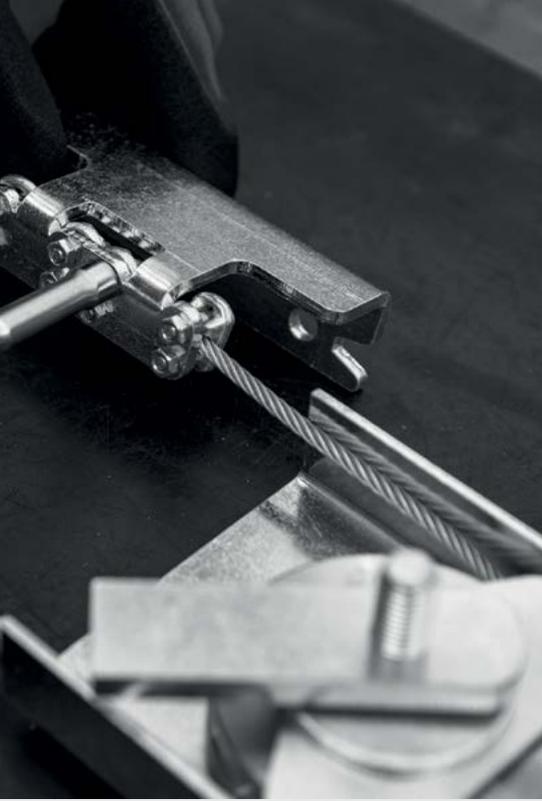
The number of clients grew over time, and the company grew with it. More and more staff joined, and the range of products constantly increased. The international breakthrough came in 1985. *“Trade fairs were popping up all over the place at that time,”* De Marchi says, *“and more and more borders were opening. My father had dreamt of being an international trailblazer in our section of the industry ever since founding the company, and now that dream was getting closer and closer.”* The Fabbrica continued to grow. In 2003 that resulted in the construction of a new 4500-square-metre factory with new manufacturing lines and a lot more space for everyone. *“It was an important step, one that created a lot of new enthusiasm and new investment,”* De Marchi says. *“Investments were made in human resources management, new machines, and of course in research and development.”*

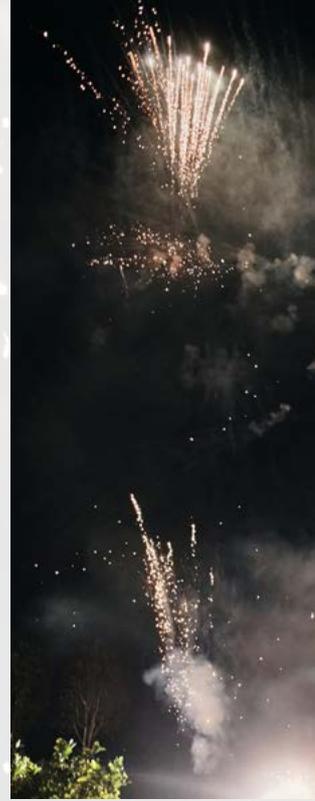
SECOND GENERATION

In 2010, the second generation joined the company. Since that time Lorenzo has been in charge of manufacturing, Anna is the sales and marketing director, and Maria is CEO. They run the company with the same enthusiasm as their father, for example by strongly emphasising saving space on the driveway of the customers. Systems for telescopic gates were developed, followed by hardware to make a gate roll around a curve and a kit for making folding gates. *“The idea of the kit was also a new one,”* De Marchi says. *“Instead of getting customers to search through a catalogue looking for each individual component, we started packaging components for a single gate together in a kit. And development is ongoing: every day we work hard to provide our customers with even better and even more easy-to-install gate hardware.”*



Maria, Lorenzo and
Anna De Marchi

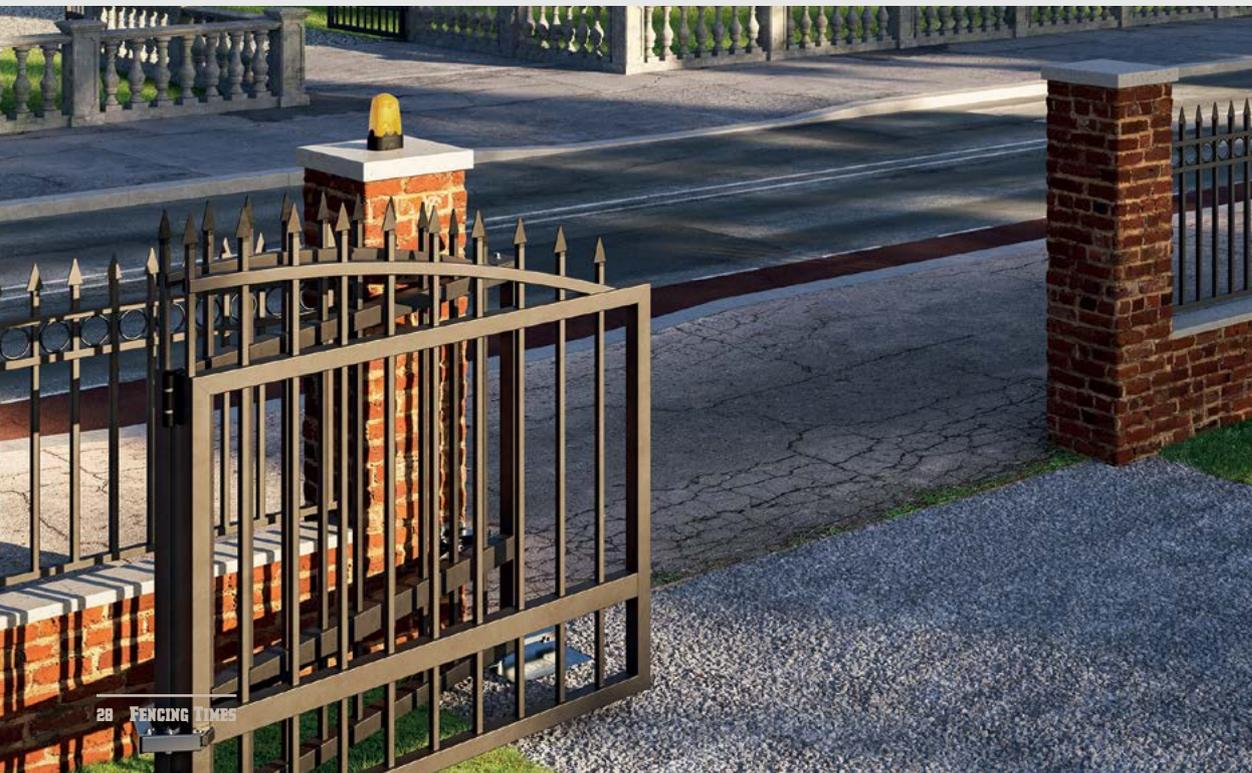




CELEBRATIONS

"All that perseverance has brought us where we are today," De Marchi goes on. "It means that 2023 is a very special year for us, one that we didn't want to let pass by without celebrating." For that reason, in October the founder's family threw a big party for everyone who has worked for or with the business over the past 50 years, including former employees, historical customers and suppliers and, of course, the company's own team. "It was an amazing event.

More than half our turnover comes from exports, so we also had guests from France, England, Romania, Spain, Portugal, and even from Canada. It was a great honour for us that so many people wanted to travel long distances to celebrate the anniversary with us. At the same time, we were very proud: it demonstrates the connection and commitment of our customers. Teamwork has always been an important aspect of everything we do."





FUTURE

For the future, De Marchi remains committed to good relationships: "On one hand the business, as a workplace, plays a social responsibility role and represents solidarity, but on the other it makes ideals and dreams possible. The business should be a place where everyone is respected: customers, suppliers and staff. The foundation of this company was laid not only by our father's technical skills, but also by his good relationships with people.

FAC is heading into the future very positively, by constantly investing in relationships – alongside technical developments. And we're always looking at the long term. We don't want to defend our existing position; we're constantly looking for new solutions, new markets, and new challenges. We set ambitious goals, but we try to achieve them by taking small steps so our growth is steady and solid. Bring on the next 50 years!" ■





In addition to being a fencing installer, Livia Graf is a photographer. Whenever her guys finish off a project, she drives to it and takes stunning fencing photos. This is one of them.



Drones: a blessing or a curse?



raijmond@fencingtimes.com

Raijmond Rondeel

Raijmond Rondeel has worked in perimeter security for many years. For Fencing Times, he writes about securing outdoor areas with detection systems. Do you have questions? Or a practical example - and are curious what Raijmond would have offered here? Send him an email at raijmond@fencingtimes.com



In my last column, I talked about the future of perimeter security – and how drones can be used as a tool for the surveillance of large outdoor areas that are difficult to monitor.

But if you're a prison director, you have a very different view of these developments. Hardly a week goes by without there being another attempt somewhere to use a drone to drop drugs, weapons, money or a phone on the other side of a prison wall or fence. There have been countless incidents, and needless to say that prison guards in particular are being driven almost crazy by these drone smuggling attempts.

And incidentally, it isn't just an issue in the corrections system. As you can imagine, there are other critical locations where security are keen to know if a drone is approaching – places like airports, the power network, the water supply, payment systems and internet hubs... essentially all places where a drone attack would mean an interruption to services and thus disruption to our society. When you put it like that, you could almost believe that it's only a matter of time before the first drone drops a 10-kilo bomb on a major data centre.



But drones flown by criminals and terrorists are not the only threat. Even the well-meaning but sometimes simply thick-as-two-short-planks consumer can cause issues. Often amateur drone pilots have no idea how dangerous their behaviour is, as they try to get that great photo or make a nice film. Sometimes they even lose control of the drone and fly it straight into the Leaning Tower of Pisa, for example. Have a Google, you'll be surprised how often a (near) accident occurs. And all this while the rules surrounding flying a drone in Europe are very clear (see box).

Before we dive in a bit deeper: what exactly is a drone, anyway? Looking up the definition of a drone gets you the following: a remote-controlled aircraft that doesn't have a pilot on board. Drones are also referred to by the acronym UAV, which stands for Unmanned Aerial Vehicle.

They can be flown from the ground using a remote control, but can also fly a pre-programmed route. The drone is named after the male bee. The term was primarily used in military circles and dates back to the early days of aviation, when these types of aircraft were not available for sale to the public.

These days anyone can buy a drone, and they come in all shapes and sizes. These factors, in turn, increase the threat of people using them to do things that we would prefer they didn't. At the last Perimeter Protection trade show in Nuremberg, I came across several stands that were drone-related. The thing that struck me about them was that there was actually only one exhibitor who viewed the drone as a 'curse' and therefore offered drone detection equipment. All the other exhibitors were using drones for alarm surveillance, and they saw the drone as a blessing for the industry.

To be fair, in my long career in outdoor security I haven't had experience in detecting hostile drones either. But I do recognise the importance of doing so. Around 10 years ago I was indirectly involved in testing one of the first detectors we came across in this field. It was a device that looked like a megaphone, and had to be installed up high on a pole or a roof. In reality it was a long-range microphone, scanning – or actually eavesdropping on – the surroundings in search of the typical high-pitched buzzing sound of a drone. I believe it had a range of several dozen metres, and was therefore not so much intended to protect airports from drones but more to alert high-net-worth individuals or famous celebrities and royals of the presence of any paparazzi with a drone attempting to take bikini photos from the sky. These detectors are still available, and have become more and more reliable as digital algorithms improve. They





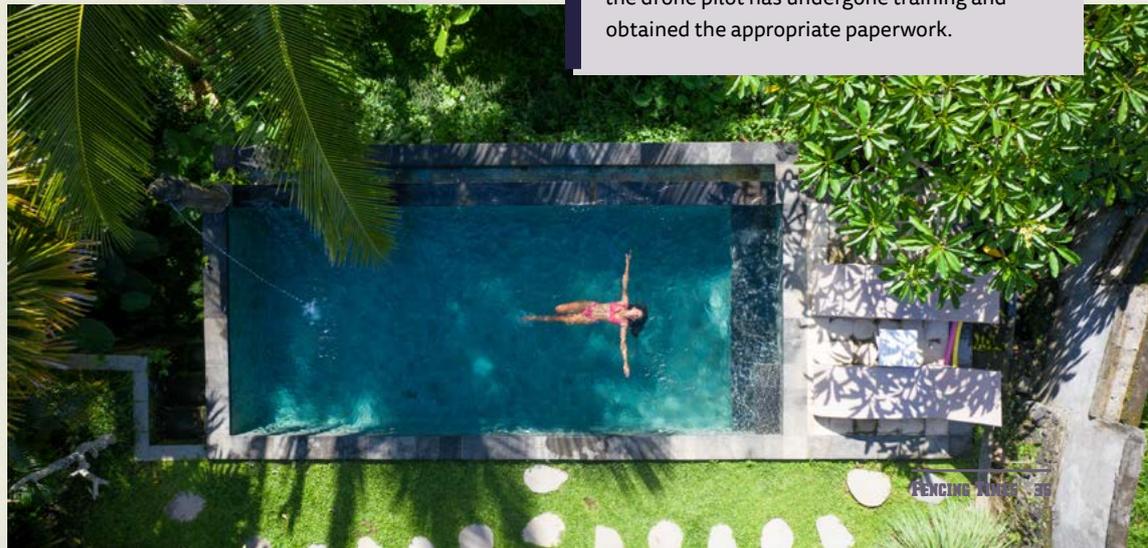
Flying a drone in Europe

can even be used in urban environments with all sorts of traffic noises. The detection range is still limited, however, and they can only be used to protect a single building or block of land.

Modern drone detection seems to primarily focus on detecting radio signals. There is, obviously, radio communication between the pilot's console and the drone, via which the pilot is able to issue commands to the drone. Of course the drone also sends information back to the console, for example altitude, battery status, and video images. These radio transmissions can be detected with the use of an RF antenna. These radio frequency scanners search the entire frequency spectrum in search of the typical radio signals that are sent between the drone and the pilot. They come in all shapes and sizes, and one of their major advantages is their enormous detection range – as big as dozens of kilometres. It does mean that the scanner picks up all sorts of

Using a drone, you can take stunning landscape photos. This is Padar Island in Indonesia. (Photo: Donnchans)

Since 31 December 2020, the same rules have applied to all drone pilots in the European Union. This provides clarity and makes flying a drone in the EU simpler. The new rules are intended to keep the skies safe and to create more space for innovative applications with drones that support various activities, including inspections of – for example – dykes, traffic management, use by the media, and agricultural applications. Since 1 January 2021, anyone who flies a drone that weighs more than 250 grams or a lighter drone with a camera has been required to register with a government agency (in the Netherlands this is the RDW, aka the Netherlands Vehicle Authority). If the drone weighs more than 250 grams, then a pilot's licence is required. This also applies to pilots who only use the drone recreationally. Pilots are not permitted to fly the drone over crowds of people or in the vicinity of an airport, although flying over people is allowed under certain conditions if the drone pilot has undergone training and obtained the appropriate paperwork.





irrelevant radio signals too, such as the signal from the RF key fob that you use to lock your car remotely. Or the conversation you have on your mobile phone. But not to worry; these types of signals are ignored. The software behind the technology only looks for the typical signals sent back and forth between the pilot and the drone. These signals are required to comply with typical communication protocols. The software analyses these protocols and, if a drone is detected, will identify and track it. Sometimes, due to the GPS co-ordinates sent back and forth, the drone and the pilot can even be located, enabling targeted action to be undertaken. It may be redundant to point this out, but this technology functions in all weathers – so even in heavy rain, snow or fog.

So this method of detection involves drones controlled by a pilot with a remote control. These so-called commercial drones – drones that you and I or criminals can buy, to use for great or perhaps not-so-great things, aka the drones that keep the prison director awake at night – have a specific maximum range of no more than a few kilometres. This therefore means that the pilot is always fairly close to the target. The providers of these detection systems claim that they allow you to detect something like 95 to 98 per cent of all commercial drone attacks in time.

But that isn't going to be enough, because there are also drones that are not controlled by a pilot who's using a console somewhere fairly close to the target. These are the drones that are unfortunately in the news on an almost daily basis, due to the drone attacks that the Russians conduct in Ukraine. These types of drones are steered using GPS co-ordinates, guided by satellite systems. They fly a pre-programmable route, so the pilot isn't somewhere nearby with a remote control.

These drones, which fly autonomously and are actually military drones, can't be detected by RF scanners. You might say, what difference would that make to you anyway? Presumably these types of drones aren't used to smuggle a packet of drugs over a prison wall? No, that's true. For the average drug offender, the cost of this type of drone is not worth the benefits. But obviously it's a different story when you're talking about international terrorism. The chief executives of international airports and other critical infrastructure certainly do worry about these types of military drones.

The drones we're talking about here are often bigger than the average commercial drone that's controlled by a pilot nearby with a console, because they need to cover greater distances and therefore need a big battery or other source of power. This is an advantage for detection, because now we can use radar. Radar is not good at detecting the smaller, shall we say 'toy' drones in time, but once the drone is bigger than the average bird, it's a different story. In those cases a radar system is actually very good at detecting drones, based on their size, speed and pattern of movement. Thanks to the Doppler effect, which I described in an earlier column, a radar is able to detect objects based on size, volume, direction of movement, and speed. Radar systems can also monitor large areas of up to several kilometres, so they are ideal for, for example, an airport to install as an additional detector to identify those drones that the RF detection system doesn't pick up on. Consequently, the better RF detection systems always offer the option of connecting a radar system, to achieve virtually 100 per cent certainty of detection.

So drone detection actually uses a system with multiple detection layers. When the location is simply one building or one block of land, for example belonging to a wealthy private individual, then that can be very well protected acoustically using the microphone. If it's a bit bigger than that, then the RF scanner detector is the basis that's able to detect just about any commercial drone flown by a pilot. If there's an even greater risk to protect against, the next layer is radar.

Above that is a final, additional layer: verification based on light, and thus on visibility. Pan, tilt and zoom (PTZ) cameras are used to achieve this. These are controllable moving cameras with an extremely powerful zoom function. They are capable of zooming in for kilometres and are perfect for identifying the object that triggered the alarm once a drone has been detected, as well as tracking it, and if required you can even see if the drone is carrying cargo. Because in high-risk locations that's what you really want to know. Is the drone carrying cargo that needs to be dropped somewhere, or is it a consumer drone with a pilot who doesn't know any better and just wants to record some nice footage? The better systems have radar and PTZ cameras integrated into a single system, so the object is tracked automatically. Such systems can also be fitted with infrared or thermal sensors, which are still able to produce images of drones even in pitch darkness.





Drone detection at a prison

DEFENCE

But what do you actually do when a drone is detected? How can you intercept it? Obviously you could shoot a net at it, or just grab the air rifle. I believe there are even special laser guns that are powerful enough that the cheaper plastic drones simply melt away and fall out of the sky.

When a drone alarm is raised, the better RF detection systems are able to pinpoint both the pilot's and the drone's positions on a map, based on GPS co-ordinates. Security staff can then take action immediately and attempt to catch the pilot in the act. So the prison guard jumps in the car and drives off to find the pilot, seizes his remote control and ensures that the drone doesn't get to the prison. RF systems are also suitable for mobile deployment, which is ideal for events, for example sports matches, festivals, or

the G7 summit where world leaders meet. The antennas are mounted on cars or trucks, which are then parked at strategic locations. Security staff then (obviously) drive around in cars, and are able to take action immediately using GPS co-ordinates. The fact that the scanner is able to pick up radio communications immediately, before the drone has even taken off, is a big advantage here. If the guard is quick off the mark, he can speak to the pilot even before a security breach has occurred. As previously mentioned, drones often don't present a genuine threat, but are instead flown by a clueless consumer with a toy drone who isn't aware that it's (sometimes temporarily) forbidden to fly in an area, or that flying over crowds of people is not allowed.

If there is a serious threat and it's difficult to locate the pilot quickly, a jammer can be used to disrupt the radio signals sent from the pilot to the drone. The drone then stops receiving commands and doesn't know what it's meant to do; it's basically adrift. When this happens, the better drones will switch to a type of emergency setting and return to their initial position, or land.

Jammers are available in all sorts of types and sizes and with a range of up to 10 kilometres, so even large complexes can be well-protected and this can be done quickly. Special handheld jammers with a range of up to around 2 kilometres are also available, and can be used on a temporary basis at events.

The more serious drones that follow a predetermined route based on GPS co-ordinates navigate in the same way as the navigation system in your car. Dozens of satellites orbit the earth, transmitting their signals to us. By combining the signals from

multiple satellites, the navigation system can determine exactly where it is on Earth, so the key here is to block the GPS signals coming from the various satellites. As they have to travel a long distance to reach the earth, these signals are no longer very strong by the time they reach us and can easily be blocked using special jammers. When this happens, the drone no longer knows what its position is, so its flight is disrupted. It can't reach its destination. Mission accomplished. For us, at least – not for the drone.

However, it should be said that all these measures are still more or less in their infancy. One of the reasons for this is that there is still no legal framework in place. It's often the case that legislation lags behind technological developments, and that's also true here. If you decide to take out your neighbour's drone with a brick because he, sitting in his garden, is using it to take photos of your daughter sunbathing topless on a beautiful summer's day, then not only was he violating privacy laws, but you as a brick-thrower are also in violation because you've brought down an aircraft. Because ultimately every registered drone is officially considered an aircraft. So we actually don't need to discuss the option of jamming radio communications to take a drone out of the sky, as this can only be done by government agencies and is governed by very strict requirements. New and up-to-date legislation appears to be on its way.

This legislation will probably cover the latest defence technology, known as GPS spoofing. This technology doesn't disrupt the GPS signals, but instead sends incorrect information. It deliberately misleads by sending false GPS data that is very similar to the original signal.

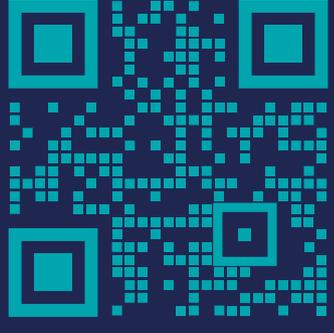




You can't just take out your neighbour's drone with a brick. Not even if he's taking photos and videos of your daughter sunbathing topless.

The drones then get confused as they think they're in a completely different location to where they really are. This is primarily a military application. Russia appears to be very advanced in its use. There are an enormous number of reports of problems with the navigation systems of ships and aircraft, but also of ordinary cars, in the precise areas where Putin happens to be, or has been recently. Russia is probably using this system on a large scale to ensure that drones are kept away from the president. It is viewed as the next step in electronic warfare. So if you happen to be driving anywhere near the Kremlin, take your old-fashioned paper street directory, because your satnav will think it's in the middle of the Black Sea or somewhere similar. ■

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FENCES IN THE NEWS



13 DECEMBER 2023

Car spins out of control and lands on top of fence



The Dutch are the best drivers in the world. They really are – of all the world's nations, the Dutch are the best behind the wheel. Just ask any random German or Frenchman. They will immediately confirm that when on the motorway, the

Dutch never drive in the fast lane unnecessarily; they never block the narrow streets of old village high streets with their caravans; they never try to drive up snowy slopes on summer tyres. Because they're excellent drivers. Ahem. Preconceptions

never come out of nowhere, but are reinforced time and time again, for example as seen in the following photo from the 'How On Earth Did You Manage That' category. According to the driver, he had just filled up with petrol in the town of Houten, near

Utrecht, and was reversing the car when it suddenly spun out of control. We would obviously say the same, if we'd ended up reversing onto the top of a fence. Anyway, the local fencing installer now has another half a day's work. ■

Hull City Council imprisons innocent residents twice in a row

Residents of Oaklands Drive and Beverly Road in the municipality of Hull, on the east coast of England, are angry at their local council for putting them in prison without warning. Well, figuratively speaking, but still. What's going on there? The school buildings of the local Hesse High School, which had stood empty for years, have been renovated and are now used by St Anne's School, a school for children with special needs. The school uses the adjacent Hesse Rangers football fields as its playing fields. However, there was no longer a fence around the fields, so the city council had one installed. Most residents don't have any problem with this, except for the fact that the fence is 2.4 metres high and towers above their own fences, giving them the feeling that they now reside in a prison. On top of that, the fence is so close to their own fences that there's not enough room to get between the two to remove litter or cut back vegetation. "Why can't the fence be a metre further back?" one neighbour asks. "And why

does it have to be 2.4 metres high?" another adds. "It's like we're living in a prison now." The school says that the 2.4 metre height is essential in order to ensure the children's safety. Local residents think this is a flimsy excuse, as the fence around the school itself is only 1.8 metres high and there are no indications that that fence will be made higher any time soon. A funny detail of the situation is that the city council had forgotten to apply (to itself) for a permit for the fence. As soon as this became clear (during the neighbourhood outcry), the city

council naturally had no option but to have the fence taken down again. But the permit will be granted before long, and once that happens the city council wants to reinstall the same fence in the same place, despite residents' objections. Probably only to move it another half a metre after 6 or 12 months and 14 additional discussions. And with that, the award for Europe's most pro-fencing-installer municipality goes to Hull City Council. The more municipalities like this, the better it is for us fencing installers. ■



Sheep farmers in Lower Saxony left in the lurch by environment minister

No money, no fence, no sheep

More political misconduct in the German state of Lower Saxony. The wolf is returning to this state – as it is to other parts of Europe – because politicians are simply unable to think logically and have nothing better to do all day than make stupid decisions. Allow us to explain: the wolf was once the most common land mammal on Earth, found in Europe, America, and large parts of Asia. But then humans came along. With more and more of the available land needed for arable and livestock farming, the wolf was driven out to more sparsely-populated areas. This was very much a deliberate expulsion, with major hunts organised for the purpose. This eradication was a smart move as well, because not only did the wolf compete with humans – who hunted the same prey – but also posed a threat to them. As early as 1197 there were reports of a wolf plague on the Moselle, claiming several human lives. Across the centuries, the wolf has consistently been described as an extremely gluttonous, cruel and cunning beast, the most dangerous enemy of both wild and domestic animals as well as being God's most harmful creature, one that attacks people, tears them up and eats them. There are countless (news) articles showing that wolves, before their expulsion, attacked people and seriously injured or killed them.

By around the 1960s, the wolf had been completely driven out of Europe's densely-populated regions. Unlike what some environmental groups would have you believe, wolves were

far from facing extinction; there were just fewer wolves than before. There were still large numbers of wolves in sparsely-populated areas of Russia, Kazakhstan, China, Iran and Turkey. Since 1970, however, people have been working hard to return wolves to the now densely-populated areas where there's really no place for them. This has primarily happened thanks to lobbying by all kinds of environmental groups – with the World Wildlife Fund at the forefront – who then receive support from politicians who have no understanding of the matter, but are eager to be liked in the hope of generating votes or popularity. Really, how stupid can you be as a politician if your aim is to have the wolf, an enemy of humans, return to live in densely-populated areas? Surely that can only go wrong?

But anyway, back to Lower Saxony. The sheep farmers of that state, who of course are the ones on the front line to witness the first casualties, have been protesting against the backwards wolf policy for years. Their flocks are a paradise for the wolves. To keep them on side, they were promised extra money to install fences. But you guessed it: that money never materialised, because the subsidy coffers are empty and there's no one who wants to fill them. The Ministry for the Environment in Hanover points the finger at Berlin and Berlin points at Brussels... and meanwhile the farmers are left out in the cold. Along with the fencing installers who'll need to put up the fences, of course. ■



Scot builds fence around land he doesn't own, without a permit



A man in Edinburgh, Scotland, has been ordered to remove a fence – because he installed it without a permit. The funny thing about the case: the man quite simply did not own the land around which he had installed the fence. The Scot had added an area of community land to his own garden by enclosing it with a wooden fence. Neighbourhood residents, who used the woodland area to play with their children, made a complaint to the municipality, which in turn

ruled that the man should not have installed the fence without a permit. It seems that in Scotland, installing a fence without a permit is a more serious offence than appropriating community land. So what did the man do? He lodged a request for a permit. At that point the municipality's Planning Commission investigated the matter, realised the absurdity of the case, and naturally refused to grant the permit. The man now has to remove the fence and will be fined if he fails to do so. ■

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