

Insight

THE CHANGING LANDSCAPE OF 21ST
CENTURY DATA CENTRE SECURITY

**Jacksons
Fencing**

With over 23 billion IoT connected devices worldwide, UK data centre capacity is forecast to store data worth over £104bn annually by 2025 to cope with the ever growing reliance on secure electronic data transfer and storage, cloud based services and critical M2M connectivity. With land at a premium, data centre operators no longer have the luxury of cherry picking their sites and are increasingly forced to consider more densely populated locations, including residential areas.

This in turn has placed architects, designers and construction firms involved in the sector under the spotlight, not only to deliver projects quickly and efficiently, but also to reassure planners that the development for a business that operates 24 hours a day, 365 days a year, will not have a negative impact on the local community.

Would you want a data centre as a neighbour?

Be honest, given the choice, your answer would probably be no. While it is relatively easy to contain noise migration from data halls, it's no secret that external noise created within a data centre site can be considerable, it is after all a business that never sleeps. HVAC systems, event triggered security and fire alarms, HV Sub Stations, back-up generators, vehicle traffic and access control don't usually make for good neighbourly relations in built-up areas. Neither do 4m high security fences with three coils of razor wire topping and post mounted CCTV cameras and floodlighting blend comfortably into the landscape.

If you do get to the point where outline planning is granted, the Risk and Threat Assessment stages which bring you to a site design which works operationally and is able to offer appropriate security against unauthorised access is where a different set of challenges begin; but it's also where new solutions can be brought to bear which could make a data centre a much more attractive neighbour.

Same security principles, different methods

The good news is that the principles and considerations we apply around the design of physical perimeter security and key assets protection in and around a data centre site through layered security levels and strategic target hardening is in many ways similar to those you already employ in the protection of your network, data, equipment and devices and many terms you use will have direct equivalents in the world of physical perimeter security, on the next page shows just a few examples.

Data & systems protection	Perimeter security & access control
System perimeter	Site perimeter
System architecture	Site plan
Ports	Pedestrian and vehicle access points
Firewall	Perimeter fence
Virus	Unauthorised visitor
Hacker	Intruder
Quarantine	Man/vehicle trap
Client authentication	Access and egress control
Monitoring and reporting	CCTV
Intrusion detection and prevention	PIDS (Perimeter Intrusion Detection System)
Network segmentation	Strategic zoned security hardening
Local computer policy	Hardened protection of individual assets
Security for DS system, tier 1-4	LPS 1175 certified classifications, Secured by Design Preferred Specification
Senior cyber and risk assurance board	Specification, PAS 68, Approved for Government Use
Switch	Rising PAS road blockers and bollards
DMZ (Demilitarised zone)	Stand off areas between perimeter and assets
Security configuration	Onion principle of layer security
Security protocol	5D security architecture
Administrative tools	Security control centre
Scheduled updates/patches	Maintenance of security fencing
Security patches	Repairs to security fencing, barriers, gates and access control
Traffic redirection/port forwarding	Temporary security measures while security fencing, barriers, gates and access control are being repaired or maintained.
Core protection	Target hardening

So, on paper at least, physical perimeter security just like IT security looks pretty straightforward, but as we all know, once you've factored-in all the primary requirements including:

- The protection of the external perimeter against scaling over, burrowing under or cutting through
- Securing and controlling entrances for authorised staff, visitors, supply of goods, power, services and communications
- Prevention of vehicle borne attack
- Securing car parking and protecting the exterior of the data hall
- Protecting fuel storage, the HV substation, standby generators and HVAC systems
- Securing and controlling access to buildings
- Integrating lighting, surveillance and intrusion detection
- Localising security devices to operate independent of data centre system infrastructure

...along with a list of specific requirements, things become a little more complex; for example, if you need fencing and gates of a style which will provide the appropriate level of security and access control without either a) advertising that they are protecting a valuable data centre or b) looking out of place in their surrounding environment and c) can offer some effect in mitigating the spread of noise and light from the site.

Smart solutions to complex challenges

Recognising that there would be continued increase in demand for land as the population rises and services and infrastructure grows to serve it, we decided over 10 years ago to invest heavily in the R&D, testing, manufacture and certification of a variety of novel and effective perimeter fencing and gate systems which offer a 'smarter' solution than the generic mesh or palisade security systems widely available to a variety of security threats.



Our objective wasn't to underline how clever and capable the company is, but to change the physical security landscape and arrive at effective and sustainable solutions to 21st Century challenges, where people, transport networks, commerce and industry will need to coexist in ever closer proximity.

Since then, we have proven through LPS 1175 certification and NPSA (previously known as CPNI) approval, that it is possible to combine high security performance and up to 32 db noise reduction capabilities within one fencing system.

We have proven that it is possible to employ timber and steel to great effect in a high security fence design with a reduced carbon footprint and we have proven that a high security fence can be aesthetically pleasing and disguise its capabilities.

Tested, approved, certified and preferred

The resulting products from our high security portfolio offer LPS1175 certified ratings from A1 through to E10, NPSA (previously known as CPNI) approval up to the highest level and Hostile Vehicle Mitigation protection to PAS 68 – all of which additionally meet with 'Police Preferred Specification' through Secured by Design. These products have already been employed in some of the most sensitive and secure establishments in the UK and export markets including the protection of embassies, laboratories, communication monitoring sites, MoD facilities, detention facilities, power stations and of course an increasing number of data centres.

As a business, we understand that data centre management and their operations teams have a lot to contend with in running and future-proofing their enterprise in a high growth, capital and skills intensive business - within an increasingly competitive landscape where security, availability and resilience play a key role in the core proposition.

This is why our tested and certified high security perimeter fences and gates, noise reduction barriers, access controls, PIDS and PAS 68 solutions are all designed to work reliably and require the minimum of maintenance over a long service life.

Our certified security fencing, gates and PAS 68 barriers are covered by a 25 year service life guarantee and designed to withstand '1 in 50 year' weather conditions.



They are additionally supported by a family business with a reputation for quality and innovation stretching back to 1947 and a team of expert installers and maintenance and repair engineers covering the country; all committed to doing their part in keeping intruders out so that you can concentrate on delivering the best possible 24/7, 365 days a year service.

Contact Us

For further information, advice or to arrange for a site visit, please contact us on +44 (0) 1233 750 393 or email security@jacksons-fencing.co.uk

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