



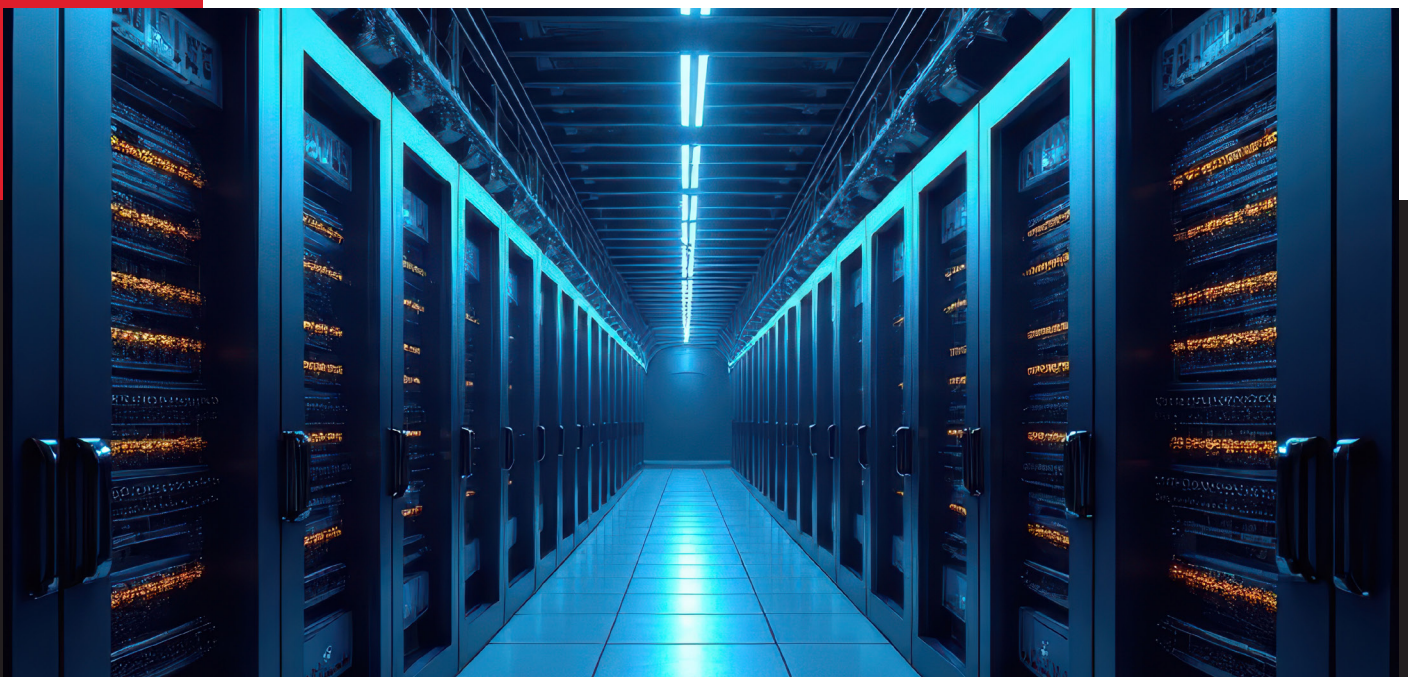
Case Study:

ARK DATA CENTRES LTD

Security & Traffic Management
Services for Data Centre Construction



PRINCIPAL
SECURITY CONSULTANTS Ltd



www.guardtec-security.co.uk



The Client



Sweet Projects Ltd and Principal Security Consultants Ltd

Project

Construction of the largest data centre site in Europe.

Location

Union Park, Hayes

Dates

October 2019 – present
(expected completion date 2027)

The Background

Ark Data Centres Ltd are a global data solutions company, providing cloud computing and data storage services, catering to Fortune 500 companies, governmental agencies, and other high-security clients.

Arks services allow businesses to work from anywhere in the world by designing and operating data centres which lead the market in social responsibility.

Their pioneering facilities leverage 100% renewable energy, optimum security, high availability and offer world-class sustainable scalability.

The company has embarked on rapid expansion of its network, as global need for data solutions grows exponentially each year.

GuardTec Security(GTC) have provided security services for Ark at each of their lives sites throughout the construction phase and their three new sites which are currently being built. This includes the impressive Union Park site, which when planning permission was granted, was the largest data centre site in Europe.

Data Centre's house mission-critical infrastructure for clients, including servers, storage systems, and networking equipment.

Given the high value of the infrastructure, sensitive data, and the potential threats to the site during construction, Ark required a comprehensive security strategy to safeguard the site throughout the construction phase.

Construction was planned to take place over a 10-year period, with parts of the facility coming online as they were completed.

The Challenges

The construction of a data centre posed unique security challenges, including:

- ▶ **Theft of Equipment:** Valuable materials such as copper wiring, industrial-grade electrical components, and high-tech equipment are at risk of theft.
- ▶ **Vandalism and Sabotage:** The construction site is located in an area prone vandalism & unauthorised access, due to its proximity to vagrant camps and given the high-value nature of the future data centre.
- ▶ **Limited Physical Perimeter:** The site is expansive and still under development, meaning portions of the perimeter are vulnerable as a temporary fencing solution is in place rather than the security grade installed at finished centres.
- ▶ **Unfamiliar Workforce:** The workforce comprised a mix of on-site construction workers, subcontractors, engineers, and vendors, with varying degrees of background checks and security clearance. Furthermore, as parts of the centre have come online, we have also had to process access control for Data Centre personnel which is very complicated due to the Health, Safety and Welfare regulations required to work in construction areas.
- ▶ **Construction Delays and Risk of Site Intrusion:** Due to the evolving nature of the site, security measures needed to be adaptable to fluctuating construction schedules and the addition of new teams, equipment, and materials being required for different phases of the project.

The Security Strategy and Solutions

► Comprehensive Risk Assessment

A thorough security risk assessment and site survey was performed before any construction began. This involved identifying potential threats (e.g., theft, unauthorised access, vandalism, terrorism, protest action and sabotage) to determining the optimal levels of security required.

- **Site Assessment:** The project team and security experts identified key vulnerabilities and entry points, especially during phases when certain areas would be left unprotected or incomplete.
- **Threat Identification:** Risks such as opportunistic theft, vandalism, and cyber-attacks targeting construction equipment (e.g., drones, GPS jamming) were also considered.

The risk assessment and site survey has been consistently reviewed for each phase of the construction, and a senior member of the security team attends all Daily Activity Briefings, which take place twice a day to ensure the security team is fully aware of all construction activities and plans each day, and to ensure security instructions can be clearly communicated with construction managers and on-site supervisors.

► Access Control and Personnel Vetting

An electronic access control system was recommended by us and installed by the client. GuardTec Security Directors assisted with the consultation for installing the system as well as recommending processes to ensure the system met security requirements and protocols.



- **Credentialing:** All construction workers, subcontractors, and vendors are required to pass through a vetting process to ensure they are safe to enter site, this included checks of their H&S qualifications, identity verification, and ensuring they are authorised to enter site.

To enforce this cloud software was implemented where all relevant documents could be added by both workers and visitors before coming to site. Security personnel hold all new workers and visitors at the front gate, checking the software has been properly installed and submitted to site management as well access being authorised before they are allowed access to the site.

In these instances, security escort, any new visitors or workers to the induction area to ensure all access protocol is fully completed for each new person attending site.

- **Site Access Points:** A limited number of entry and exit points were used to control traffic to and from the site. These access points were monitored by security personnel, with face scanners. For added security we recommended a no pass-back process was installed on the system, this means that no one worker can use their face to allow multiple times to allow access to other workers. Once the face recognition has been used, the turnstile will only allow one person access and any attempt by the same person to allow access for another person, will result in the turnstile locking down and the system informing security.

- ▶ **Visitor Management:** A strict policy was put in place for any visitors, ensuring they were accompanied by authorised personnel and had limited access to sensitive areas. This is especially important in the event of emergency situations such as fires, as visitors are often not fully aware of their surroundings, especially at large building sites.

▶ **Physical Security Infrastructure**

Given the scale of the data centre construction, physical security infrastructure was critical in preventing unauthorised access and protecting high-value materials.

- ▶ **Fencing and Perimeter Security:** The entire site was surrounded by tamper-proof perimeter fence with an additional buffer zone. This fence was monitored by CCTV cameras, with hourly checks being performed for its integrity, visual patrols and a 24/7 security presence to deter break-ins.
- ▶ **Barriers and Locking Systems:** Heavy-duty locks and security gates were installed on all areas that were under construction or stored valuable materials. Areas that were fully secure or containing sensitive materials were designated as “high-security zones.” This includes office areas where senior Data Centre and construction management work from. In these areas we recommended the installation of magnetic locks controlled by a card access system. These cards are issued by security personnel only, who follow a approval system. The authorised list is regularly reviewed with the client to ensure that only persons currently needing access on site, have a working card.
- ▶ **Lighting:** Floodlights were strategically placed around the site to ensure clear visibility at night and deter trespassers.



► **Surveillance and Monitoring**

The site did not have a functioning, modern CCTV system. We recommended the use of advanced surveillance technology as an integral system to maintaining constant vigilance over the construction site. The installation of the system was undertaken by our partner company with

- **CCTV Cameras:** Over 50 high-definition surveillance cameras were installed across the site. These cameras covered all key areas, including access points, storage areas, equipment locations, and perimeter zones.
- **Remote Monitoring:** A 24/7 remote monitoring system allowed security personnel to track all activities on-site from the control room. Real-time alerts were triggered for any suspicious movement or unauthorised access to site allowing security personnel to quickly respond to incidents or suspicious activity.

► **Asset Protection and Tracking**

Protecting high-value equipment and materials is a priority throughout the construction phase.

- **Asset Tagging:** All major construction equipment, materials, and tools are tagged with GPS-enabled RFID tags. This allowed for real-time tracking of the assets, minimising the risk of theft or misplacement. We also regularly meet with site management to recommend the out of hours storage of plant, to ensure it can be better secured and is not visible from a public area, tempting thieves who specialise in this type of criminal activity.

- ▶ **Secure Storage:** Valuable equipment is stored in secure, locked shipping containers or storage facilities overnight when not in use. We also ensured the new CCTV system covered these areas and are monitored by security personnel during these hours, to ensure that any unauthorised access the secure storage could be quickly responded to.

▶ **Emergency Response and Crisis Management**

An emergency response plan was developed to ensure a rapid, coordinated approach to any security incidents, accidents, or crises on-site.

- ▶ **Incident Protocols:** Security personnel underwent training in how to handle various emergency scenarios, including intruder incidents, fire outbreaks, or equipment malfunctions.
- ▶ **Collaboration with Local Authorities:** Close collaboration with local police, fire departments, and emergency medical teams ensured that resources would be readily available in case of a significant emergency.



The Execution

Our security services have successfully implemented throughout the construction phase, with the following key outcomes:

- ▶ **Theft Prevention:** No significant theft incidents occurred throughout the construction process. The combination of GPS tracking, asset tagging, and on-site monitoring proved highly effective in preventing equipment and material theft.
- ▶ **Unauthorised Access:** Only authorised personnel gained access to the construction areas. Access control systems ensured that personnel were restricted to designated zones based on their roles.
- ▶ **Site Integrity:** The construction site remained free from major vandalism, sabotage, or intentional disruptions. Perimeter fencing, surveillance cameras, and routine patrols ensured the site was secure.
- ▶ **Minimal Incidents:** Security response teams efficiently handled any minor incidents, including equipment malfunctions and minor trespassing attempts, without compromising the overall safety of the site.

The Outcome

The construction of the largest data centre in Europe is progressing on time, with zero security breaches or incidents that delayed construction. Key outcomes included:

- ▶ **Zero Losses:** No construction materials or equipment were stolen or damaged.
- ▶ **Smooth Construction Process:** Construction proceeded

with minimal security disruptions, and the site has been free of unauthorised access throughout the project timeline.

- ▶ **Secure Environment:** The site is deemed secure and safe for all workers, subcontractors, and authorised personnel at all times.

The Lessons Learned

- ▶ **Comprehensive Access Control is Essential:** Thorough checks and strict access control policies significantly minimise the risk of insider threats.
- ▶ **Technology Integration is Key:** Combining physical security measures with advanced surveillance and asset tracking technology provides unparalleled security oversight.
- ▶ **Adaptive Security Solutions:** A flexible security approach, capable of evolving as construction progressed, is critical in addressing new risks and vulnerabilities.

The Conclusion

The security services we are providing have been and are integral to the project's success.

A multi-faceted approach that combines physical security measures, advanced technology, and close coordination with the client ensures the safety of high-value assets, protects workers, and prevents unauthorised access.

The seamless execution of this comprehensive security strategy contributes to the timely and secure completion of a data centres, positioning Ark Data Centres Ltd for continued success in the data storage and cloud computing sector.



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This work was undertaken by Total Security and Cleaning Services Ltd, who changed their name to GuardTec Security and Patrol UK Ltd from January 2026.