**Landscape**

After the International Olympic Committee named London as the host city for the 2012 Summer Olympics, the London Organising Committee of the Olympic Games (LOCOG) quickly went to work preparing London for the expected one million visitors who would come to the Games. The Games involved considerable construction, including the development of the 490-acre Olympic Park in East London. Properly securing one of Europe’s largest ever construction sites was the first critical step in the LOCOG’s long-term security plan to safeguard athletes and visitors during the Games. Olympic officials chose Human Recognition Systems (HRS), in partnership with Reliance High-Tech, to supply and manage a security solution that would provide multi-factor authentication and allow them to control access into various construction sites, and be able to track—at any given time—which employees were on a construction site.

**Desired outcome**

The building site for Olympic Park and its surrounding venues needed an enhanced access control system that would ensure the safety and security of the sites and the 4,500-strong workforce. Additionally, as activity and visitors increased, it was imperative the security solution could accommodate greater volumes of transactions without compromising security or hampering progress.
Challenges

- **Sheer volume:** HRS needed a solution that could securely manage the access and identities on a large scale, but was also flexible enough to be deployed across a continuously changing landscape that encompassed the entire Olympic Park outer perimeter and key sites within the park.

- **Speedy and secure:** Given the vast number of workers, the solution needed to be fast and efficient. Access had historically been granted using a card-based system that required security officers to verify the credentials of each employee against his card—a laborious process that slowed progress. And while smart cards were faster and more secure than other options, they were not the best choice for this highly-secure venue.

- **Industrial environment:** Construction environments are often dusty or dirty. Any technology solution needed to be able to withstand the construction environment and still be able to read credentials—even if they were dirty.

Solutions

Due to the high-risk nature of the site, HRS chose a biometric access control solution that combined smart card technology and biometric HandReaders. Together, these two technologies provided multi-factor authentication as a single secure access control tool.

Here’s how it worked:

- A worker was enrolled in the system by placing his hand on the platen of the Schlage® HandKey II.

- At construction sites, each user presented a smart card—complete with a photo ID, biometric template and personal cardholder information—to an external reader allowing it to read the biometric template on the card.

- The user then placed his hand on the HandKey II so identification could be validated against the biometric template.

- If the hand matched, the worker was allowed entry through the turnstile.

- Each transaction was recorded by the system and provided project managers with accurate information on the number of workers onsite, duration of stay and other information.

The HandKey II readers were installed at 140+ access points, 18 vehicle lanes and 20 enrollment stations. They were the ideal solution for Olympic Park for several reasons:

- **Unparalleled security:** HandKeys eliminate unauthorized access because the credentials cannot be duplicated, lost or stolen. They measure the size and shape of a person’s hand, including length, width, thickness and surface area to verify the person’s identity.

- **Durability:** HandKeys work well in industrial environments because they can accurately identify a user even if his hand is dirty, wet or injured, or if the device is damp, dusty or dirty. In a construction environment where hands and fingers often take a beating, the readers are unaffected because they are evaluating a three-dimensional reading of the hand’s shape.

- **Speed:** HandKeys processed up to 5,000 workers per hour at peak times, at a speed of about five to eight seconds per transaction.
Accuracy: They boast a low false reject rate because they are unaffected by dirty hands or devices.

Ease of installation and use: Fast installation and intuitive enrollment increases user convenience and the overall experience.

Enhanced functionality: They track and monitor who is on site, providing instant muster reports for safe emergency evacuation.

Result
The combined smart card and biometric hand reader solution was very successful for London Olympic Park. In fact, it was used during three stages:

- Stage 1: Building Olympic Park
- Stage 2: Transforming the site, post Olympic Games
- Stage 3: Upgrading the site, which will be complete in 2015-2016

In total, 81,000 people were enrolled in the system, with approximately 15,000 workers accessing the readers daily. The readers managed 22 million+ transactions throughout the construction phase of Olympic Park. To date, more than 30 million transactions have been processed. Biometric HandReaders are the rapidly growing choice over other technologies, ID badges and credentials for their proven track record of reliability—even in harsh environments.

Watch video on HandKey Readers at London Olympic Park

Downloadables
Biometrics: By the hand
High security applications for biometrics

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