

## Case Study: Jewellery Store in Rotterdam

### The Problem

It is common that after a robbery incident, the shop dependents are unable to provide the police with useful descriptions, driven by the effect of a stressful situation. Nevertheless, images of first-time offenders will always be captured by any of the CCTV cameras deployed at the jewellery store. Such images will be incorporated to the repository of blacklisted subjects by the hand of the Police, so that repeat offenders are immediately recognized in the future. As time goes on, the probability of identifying offenders increases, at the same pace as the risk of robberies at the jewellery stores are pushed down

### The Approach

A pilot scenario was set up and the initial tests of other face recognition technology outside of Herta made it clear that not every test scenario yielded equally good results. Outdoor and indoor images were subject to different lighting conditions, such as bright sunlight and heavy shadows, entailing difficulties for recognition. In addition, everything worked fine when the training images were taken from cameras at the location, but when those were frontal mugshots taken by the police, identification was not as successful. The effects of the two layers of glass at the rounded door interlock were not helpful either. Real-life scenarios were proving to be a great challenge.

### The Solution

The project leader contacted Herta after seeing the results did not meet their expectations and started testing BioSurveillance, which succeeded where others failed, and facial recognition under such pressing conditions was finally enabled. The technology under BioSurveillance made it possible to correctly identify subjects from single police photographs, by improving their biometric models and making them more invariant to rotations. The algorithm also proved resistant to strong variations of illumination, and was capable of overcoming partial occlusions, which together contribute to the most common problems of face recognition.

Since the incorporation of Herta's BioSurveillance, the technology has been continuously running and exhaustively tested on a 24/7 basis. Approximately 300,000 faces were processed during the first 10 months achieving an accuracy rate around 90% and an extraordinary low rate of false positives. The major success of this initiative is also reflected in the satisfaction repeatedly shown both by the police and the retail owners.

"The greatest strenght of the system lies in the ability to prevent crime and a high reliability on the technology of the whole project."

- Project Leader

### About Herta

Herta is a world leader in the development of cutting edge facial recognition solutions. Based in Barcelona and with offices in Madrid, Los Angeles, Montevideo, Mexico City and Singapore, the company offers fast, accurate, robust, end-customer oriented solutions for video surveillance, access control, and marketing requirements. International projects include safe-cities, airports, train and metro stations, prisons, banks, casinos, sports stadiums, shopping malls, military, police and forensic applications. Herta has partners in 50 countries and more than 250 certified integrators globally.