Panasonic
BUSINESS

Security Solutions

Brondby IF utilise FacePRO to Improve fan safety and experience / Denmark

Fan safety enhanced through innovative use of Panasonic's facial recognition and security camera solutions at Brøndby football club's family friendly stadium.
Client - Danish Superliga Football Club Brøndby IF
Location - Denmark

Challenge:
Further improve fan safety by using security technology to prevent banned football hooligans from entering the stadium, whilst maintaining visitor privacy and complying with European Union General Data Protection Regulations (GDPR).

Solution:
Installing Panasonic's FacePRO facial recognition system at the entrances to the stadium helped to more effectively identify those on the banned list. System configured to comply with GDPR requirements.
Video: https://youtu.be/2LiMQTgQogo

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>
> Mickel Lauritsen, Head of Security at Brøndby IF

Brøndby IF, founded in 1964, is one of the most successful football clubs in the Danish Superliga. The community has a strong bond with the club and an enthusiastic fan base. This enthusiasm, however, sometimes spills over into unacceptable behavior by a small minority of supporters. Certain fans were occasionally bringing in flares and lighting them in the stands, which is against the Danish Football Association rules, and can lead to club fines.

The club was also aware that family attendance had fallen at some of the more high-profile games, such as the local derby with F.C. Copenhagen, due to concerns over hooliganism and safety. With an average attendance of 14,000 people per game, and up to 100 registered persons on the stadium blacklist for causing trouble, the football club wanted to find a way to make genuine fans feel even safer at the family-friendly stadium by preventing problems before they could occur.

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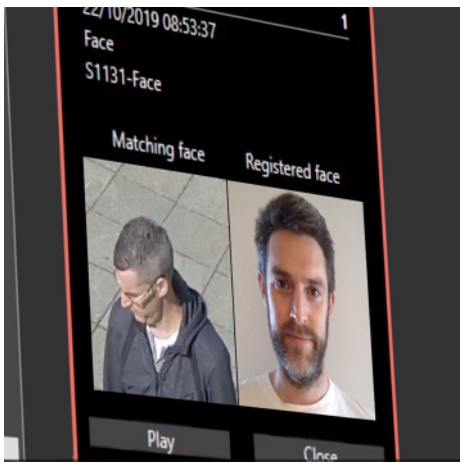
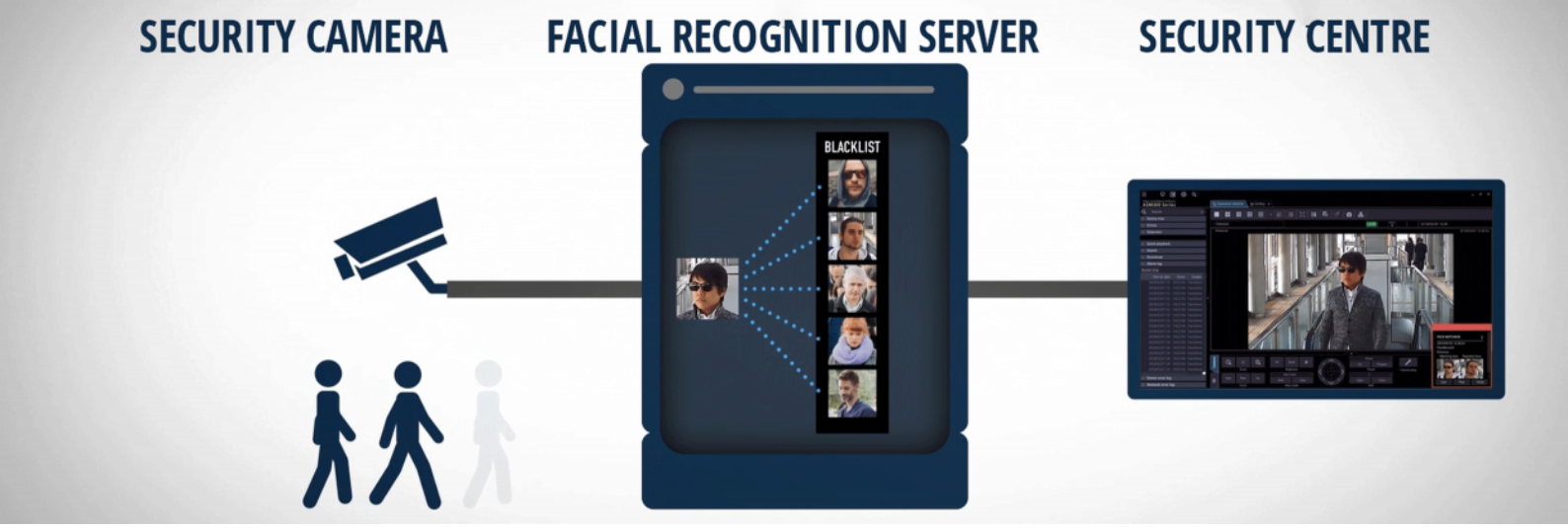
Up until this point, lists of banned people were distributed to security staff at the entrance gates. They would **manually check each person coming into the stadium, but this process was time consuming and not always effective.**

"Our people were doing a good job but if you have to recognise up to 100 people in a crowd of thousands it can be a difficult task," explained Tom Larsen, Stadium Manager at Brøndby IF.

Panasonic first contacted the Danish Football Association to see if there was an interest in the company's facial recognition technology, and an introduction was made to Brøndby IF. Panasonic ran tests at the stadium to verify the effectiveness of the system in real world conditions. **Even when the face was partially covered by sunglasses or a scarf, the facial recognition system was able to successfully identify test subjects.**



Brøndby IF were so impressed with the system's capabilities that they decided to implement the solution. With the use of Panasonic's security solution, **blacklisted offenders can now be automatically identified in the crowd before they attempt to enter the stadium.** System operators in the surveillance room double check matches made by the system before sending notification to the stewards at the gates to prevent them from entering.



The automated procedure at the stadium entrance also decreases congestion at the gates, so genuine fans can get into the stadium faster. As well as improving security outside, the system allows staff more time to focus their attention on creating a safe and entertaining environment for those inside the stadium.

Ground-Breaking technology

On the camera side, Panasonic's "Best-Shot" functionality is utilised to automatically select the best facial images for analysis, even in difficult light conditions. Only the best images, from the multiple images of each person, are selected and sent to the server. This enables a large number of faces to be processed without overloading the network, and contributes to cost reduction of the entire system.

On the software side, the world's **highest-level1 of facial recognition performance** has been achieved with the FacePRO facial image analysis. The software enables extremely precise checks even with angled views of the face, when the face is partially concealed by sunglasses or a mask, and when facial changes over time (up to 10 years) may be difficult to distinguish with the human eye.

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Compliance with GDPR

Another issue important to address in the implementation was compliance with European Union GDPR. The Panasonic FacePro solution is very flexible and can be configured to delete or store data as required. To meet Brøndby IF's requirements, data from the camera is encrypted and the data and images of people not on the blacklist are never stored. In addition, the details of banned individuals are encrypted and only stored on a server blocked from the Internet and all other external systems. Brøndby IF sought permission and approval on its approach to GDPR compliance from the Danish Data Protection Agency.

Mickel Lauritsen, Head of Security at Brøndby IF, said: "We can see that we have decreased the amount of flares being used within the stadium during our matches. It has been a success and it's an absolutely vital tool in order to maintain safety and security."

"Besides the pure security factor, our facial recognition system can also help to enhance the customer experience by providing quicker, more streamlined access or tailored services."

Gerard Figols, Head of the European security business at Panasonic, commented: "Panasonic's facial recognition system contributes to a safer stadium environment by alleviating security pressure on the ground, while ensuring that all data is protected from unauthorised external access. The accuracy and processing capacity of Panasonic FacePRO means that it is ideal for football, and other sporting stadiums around the world, as well as many other venues where security and high visitor numbers are a factor. Besides the pure security factor, our facial recognition system can also help to enhance the customer experience by providing quicker, more streamlined access or tailored services."

Looking to the future, Brøndby IF see the possibility of using a mobile version of the system at away matches. In addition, they are considering whether the technology could be used to gather anonymized data about supporters, such as age and gender information for example, for marketing purposes.

There has also been a lot of interest in the solution and visits from representatives from other football clubs and other industry sectors. Visitors are keen to understand how the technology could be used to improve visitor throughput and enhance customer experience at a wide variety of venues, from airports through to visitor attractions, such as museums.

[1] Evaluation points from the official evaluation report of the National Institute of Standards and Technology (NIST) as of May 9, 2017: https://www.nist.gov/programs-projects/face-challenges

Product used in this application

WV-ASF950

Facial Recognition Server Software

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