

Case Study SwimEye™, Norway



MOBOTIX IoT Cameras Help Protect Swimmers from Drowning

SwimEye™ is a drowning detection and prevention system mounted under the water in pools. At the heart of all SwimEye™ systems is a high-resolution camera from MOBOTIX. The small size of the camera allows it to be discreetly mounted in the SwimEye™ camera housing, and combined with MOBOTIX' high image quality, this makes the SwimEye™ able to detect swimmers in distress and raise alarm.

Swimming pools offer fun times and enjoyment, but they can also be dangerous. For lifeguards overseeing the pool area, it can be difficult to keep an eye on all guests at the same time – and recognize when a swimmer is in distress.

Because of this, the Norwegian-based company Davo invented the SwimEye™ – a technologically advanced drowning detection and prevention system. By using the most innovative technology, the system acts as an extra lifeguard in the pool; thanks to a high-resolution camera built into the SwimEye™, it only takes 5-20 seconds to detect a person lying at the bottom of a pool and alert the lifeguards. In comparison, it takes approximately 1 minute and 14 seconds for a lifeguard – according to international tests – to spot a potential drowning.

MOBOTIX cameras keep an eye on swimmers
The SwimEye™ was first launched in 2005, but in

2015, Davo decided to shift to another camera manufacturer – and the choice fell on MOBOTIX. It was quite a coincidence that led the two companies together; one day Eirik Nielsen, the sales engineer at partner Last Mile Communications (LMSC) in Norway – a company specialized in providing high-quality IP surveillance camera systems and a respected MOBOTIX partner – came across the SwimEye™. The system instantly caught his interest, and he contacted the team behind SwimEye™ – and shortly thereafter, they met.

Tor Petter Johansen, the managing director at Davo, was amazed by the capabilities of the MOBOTIX cameras and quickly decided to replace the existing camera in the SwimEye™ with a MOBOTIX model.

“We only use the absolutely best technical components for SwimEye™, and it is extremely important to us that all the suppliers we work with deliver the best possible components in the highest quality. MOBOTIX does that,” says Tor Petter Johansen.

Small-sized camera and high image quality

After consulting LMSC, the choice fell on the camera model S15 from MOBOTIX. It was especially the size of the camera that impressed Tor Petter Johansen, as the cameras are 50% smaller than the cameras previously used in SwimEye™.

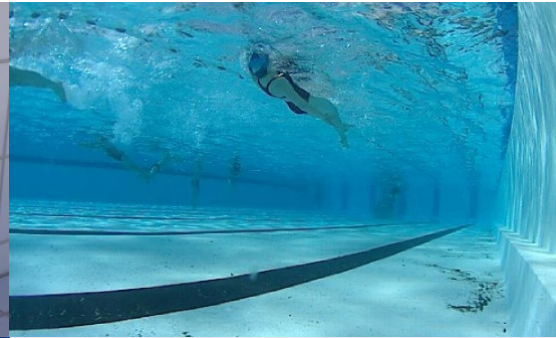
“The size matters a lot, because when installed under water, it is important that the camera does not stick out so that pool guests risk jumping into it or use it to sit or stand on,” he explains and continues:

“Another determining factor was the image quality, which improved significantly after shifting to MOBOTIX and gave us the opportunity to increase the frame rate. In the ‘old days’, we got one image per second; we now get 25 images per second, so we have taken a huge step forward.”

Owing to the robustness of the MOBOTIX cameras, they are ideal for installations under e.g. harsh weather conditions – or as in this case where the cameras are installed under water with pressure. However, integrating the software from MOBOTIX in SwimEye™ was not without challenges: “MOBOTIX’ software is quite complex and so is the SwimEye™. As such, it required a lot of coding from MOBOTIX’ engineering team to make them work together. Now that they do, the merging of two complex systems has led to the ideal solution,” says Eirik Nielsen from LMCS.

Reducing false alarms

For a drowning detection system, reliable and well-functioning cameras are crucial: “The cameras should help the lifeguards, and if the cameras are



not working properly, they may instead cause frustration. Lifeguards must be able to trust the system, and to do so, you need a stable system without SwimEye™ stands out,” says Tor Petter Johansen and continues: “The old story of the boy that cried wolf really applies here, because if lifeguards keep experiencing false alarms, they might not react when something really happens. With MOBOTIX, we have been able to reduce the number of false alarms significantly and stabilize the system to a very high level.”

Only monitor in case of incidents

All SwimEye™ camera housings are equipped with either dual or single daylight lenses from MOBOTIX. For a standard-sized pool, approximately six SwimEye™ camera housings including 12 lenses are

installed to cover all corners and making sure there are no blind spots.

The cameras monitor the bottom of the pool, but only in case of incidents; when there is a detection, the cameras start filming, otherwise not. This will – among other things – protect the privacy of the swimmers, as there are varying regulations from country to country when it comes to filming in pools.

Always looking for improvements

The MOBOTIX camera has now been the heart of the SwimEye™ for a couple of years with great success, but the people behind the system does not rests on their laurels:

“We work very closely with the SwimEye™ team to continuously improve the solution. They are always looking for ways to optimize, and the next step could very well be the new S16 model that MOBOTIX has recently launched,” says Eirik Nielsen from LMSC.

Currently, SwimEye™ is sold to pools in Iceland, Norway, Sweden and Switzerland, but within the near future, Davo plans to expand to Denmark, the UK and Germany. The SwimEye™ system has in fact recently replaced competitive systems in several pools:

“Shifting to MOBOTIX has helped improve our solution and thereby contributed to our growth into new markets,” Tor Petter Johansen concludes.

Retailer information: