

AR goggles: FORM is sorta like Google Glass, but for swimming

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The rise of augmented reality has enabled tech companies to create some of the most hyped-up eyewear the world has ever seen.

After showing half-baked prototypes, some of the futuristic glasses were quickly defunct like the consumer-ready version of Google Glass. Others remain in development mode, like the ones Apple filed patents for

earlier this year.

While major [tech companies](#) figure out how to deliver head-mounted tech that allows consumers to communicate with one another as they navigate the world, plenty of startups have entered the space, pairing discreet see-through displays with fitness-tracking technology so that consumers can see floating performance metrics during cardio exercise.

On Tuesday, the Vancouver-based startup FORM unveiled a pair of premium swim goggles that have AR integrated into the lens and an onboard computer that uses artificial intelligence to track metrics.

The company's \$199 wearable gadget makes the underwater activity more visually engaging and enables consumers to maintain good form while tracking what's happening inside their bodies.

With wrist-worn wearables like Apple Watch and Fitbit, swimmers have to pause or alter their technique in order to check their fitness performance. FORM's founder Dan Eisenhardt says the new swim goggles solve this fundamental issue.

"The idea for FORM came about many years ago, but we are only now entering a time when technology lets us deliver this experience seamlessly in a premium pair of swim goggles," said Eisenhardt, whose previous AR eyewear company Recon Instruments sold to Intel in 2015.

FORM enables both swimmers and coaches to be more in tune with what's happening in the water as the goggles intuitively start tracking the first stroke and rests are autodetected.

Metrics include calories burned, distance traveled, split times and stroke rate, among others, and the data floats in the swimmer's line of sight. It also gives swimmers the freedom to customize exactly which metrics are

displayed on the lens and when each metric appears: while swimming, after turns, or during rest.

"When I took the goggles to the pool the first time, I had a bit of a snooty, elite swimmer mentality, thinking this is going to be a bit much," said Scott Dickens, a former Olympic swimmer who is now FORM's Director of Strategic Partnerships.

He said that he was pleased when he realized that the device wasn't obstructive.

"When I put them on it felt like a regular pair of goggles. It doesn't add any resistance or slow you down," Dickens said.

The smart goggles can be used by professional swimmers, who need to aggressively monitor their performance down to the millisecond, or by just-for-fun swimmers (pre-teen and older) who want a more connected experience.

The company says FORM has 16 hours of battery life and automatically categorizes your swims in the smartphone-based app once you leave the pool. The FORM Swim app launches on Aug. 7 in Apple's App Store and the Google Play store when the devices ship internationally.

If industry projections are any indication, FORM's launch timing couldn't be better.

The blossoming AR sector is expected to boom over the next five years, according to the market analysis company BIS Research.

What started out as a \$3.48-billion industry around the time Pokémon Go launched has grown exponentially. Now the AR market is projected to reach almost \$200 billion worldwide by 2025.

Biking and running in AR

While Eisenhard's company focuses on swimming, others like Solos and EverySight offer heads-up displays for cycling so consumers can keep their eyes on the road while biking and running—a necessary safety measure as the number of cycling and pedestrian deaths across the country continues to rise.

Solos sells its sporty version of Google Glass for \$500 a pair. The smart glasses track speed, power and cadence. Its competitor, Israel-based EverySight, sells its AR smart glasses called Raptor for \$599.

Raptor uses an OLED-based projector system to provide the display, which shows mapping and heart rate data.

Why augmented reality?

Where virtual reality requires you to buy expensive and often bulky hardware, AR is easily mediated by mainstream smartphones that most consumers already own.

Both Google Play and the App Store are home to exercise apps that provide an experience in which your real-world fitness blends into a digital one.

For example, "exergames" like Zombies, Run! combine physical activity with gamification.

As you race (run or jog) to be saved from the zombie apocalypse, the app uses your smartphone's accelerometer to track your pace. Through your earbuds, you get assigned a mission and before you know it—after gathering supplies and rescuing survivors—you've conquered a 5K run.

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