



# Hyperbowl

## Highlights

**Location**  
Penzing, Germany

**Industry**  
Media Production

**Application**  
Virtual Production Stage

**Partners**  
Epic Games

## OptiTrack Supports Fast-Paced Virtual Production Projects at Hyperbowl Studio

Located at a former air base in Penzing, 30 miles west of Munich, Hyperbowl is Germany's first virtual production studio and one of the largest in Europe. It opened in March 2020 and is located in a refurbished airplane hangar that offers abundant space for large-scale productions and enough seclusion for secret productions.

Part of Penzing Studios, Hyperbowl is the result of three organizations (NSYNK, ACHT and TFN) banding together and bringing their expertise in visual effects, mixed reality and live communication to create a virtual production house that combines top-tier creative services and cutting-edge technology. The studio specializes in translating creative visions into virtual worlds and functions as a creative partner for customers in advertising, film and TV, corporate events and art. As a virtual production partner, Hyperbowl runs every aspect of the virtual production process, interfacing with each customer's team on all levels.

Hyperbowl CEO Eno Henze, who is also the founder and creative director of NSYNK, said the idea for Hyperbowl originated in 2020, when everything suddenly ground to a halt due to the global pandemic, allowing the founding partners the opportunity to contemplate a venture based on their collective backgrounds and skills.

“We decided it was our lucky moment,” Henze said. “For years, we had been engaged with campaigns in brand communications and storytelling using the same technologies that enable virtual production, so this was the next logical step. We then bootstrapped virtual production as a business case in Europe and established Hyperbowl as a fully functional virtual production studio within three months. Since then, it’s been a very exciting three years exploring the new technology and bringing it to the European market.”

Hyperbowl’s virtual production studio features a 270 degree LED volume with an LED horizon surface of 220 square meters (2,368 square feet) and a sky surface of 258 square meters (2,777 square feet). The studio platform is powered by Unreal and combines Hyperbowl’s own software framework with specialized technologies and equipment. Among these is an OptiTrack camera tracking system, which features 3D optical tracking technology and sub-millimeter accuracy for virtual production stages and other industry applications.


The specific OptiTrack system at Hyperbowl incorporates a mix of 30 Prime<sup>x</sup> 41 and Slim<sup>x</sup>13 cameras to create a high precision configuration that optimizes 3D accuracy in the LED volume environment. It also includes OptiTrack’s CinePuck—a high-end, optical-fused IMU (inertial measurement unit) tracking tool for virtual production studios that can be seamlessly integrated into any production workflow, even crowded rigging configurations, using a variety of mounts.

## Seamless Operation

For the first two plus years, Hyperbowl was mainly involved with advertising productions. Eventually, feature films started picking up and by May 2023, the virtual production studio had completed nearly 80 productions, working with film companies, artists and leading brands which included German auto manufactures Mercedes Benz, Audi and BMW.

But it wasn’t easy initially. Getting customers to trust virtual production took some convincing. “Everybody was apprehensive at first,” Henze said. “How do you work with it? Does it yield creative freedom? It took time for productions to gain confidence in this new technology.”

While challenging, working primarily on advertising projects during the first years proved beneficial as a training ground. “These are high paced productions, with very tight schedules that can last just one or two shooting days,” Henze said. “That means that speed and flexibility are paramount to everything we do. We had to learn very quickly from one production to the next and improve our workflows.”



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**Dennis Boleslawski** — Chief Technology Officer, Hyperbowl





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**Eno Henze** — CEO, Hyperbowl



At the same time, such demanding conditions required a lot of stability from the setup to be able to rapidly adapt to the requirements and challenges of very different productions, according to Henze. This is where the OptiTrack system comes into play.

“From our perspective, OptiTrack is the most versatile solution for camera tracking,” Henze said. “We can just put the tracker [CinePuck] on top of any camera support system or camera rig and we are ready to go. Tracking for these fast-paced productions would be much slower with a different system because there would be prerequisites to consider. But in our case, we don’t have to stop and think about how to use it. It’s a technology that’s never in your way.”

**“The tracker itself is fully wireless and light, allowing it to be easily placed on a handheld camera.”**

**Dr. Francois Asseman** — International Sales Director, OptiTrack

OptiTrack International Sales Director Dr. Francois Asseman said the flexibility of OptiTrack is one of the core strengths of the system. “The tracker itself is fully wireless and light, allowing it to be easily placed on a handheld camera,” he said. “That, combined with the low latency and accuracy of the technology, makes the tracking process completely seamless.”





# Minimal Interference

Hyperbowl Chief Technology Officer Dennis Boleslawski said one of the key advantages of working with OptiTrack is that the system tends to stay in the background without affecting set activities. “With any other tracking system, you would need to stop production if the camera, the sensor or the tracker had to be calibrated, and that usually takes quite a lot of time. With OptiTrack, the calibration doesn’t take away any stage time. You don’t have to interfere with the camera crew and the directors don’t really experience much waiting time.”

As an outside-in tracking system, OptiTrack also minimizes visual intrusion on the LED tracking volume, according to Asseman. “The difficulty with an inside-out tracking system is that reference markers have to be placed somewhere in the volume,” he said. “That presents a problem because you are changing the set environment. With an OptiTrack system, you don’t have to introduce anything into the scene, the floor or the ceiling. And since the technology and the cameras are outside of the volume, tracking more than one cinema camera, LED panel or object is very easy. It’s plug and play.”

The low visual footprint of the OptiTrack system is beneficial for supporting automotive-related production work and especially projects that utilize the full 360-degree reflections of the LED volume, Henze noted. “We have no space for an inside-out marker-based tracking system,” he said. “If we had to place markers on the floor or the ceiling, then they would be visible. With OptiTrack, the impact on the final image is manageable and can be very much anticipated.”

