I AM HYDROCam

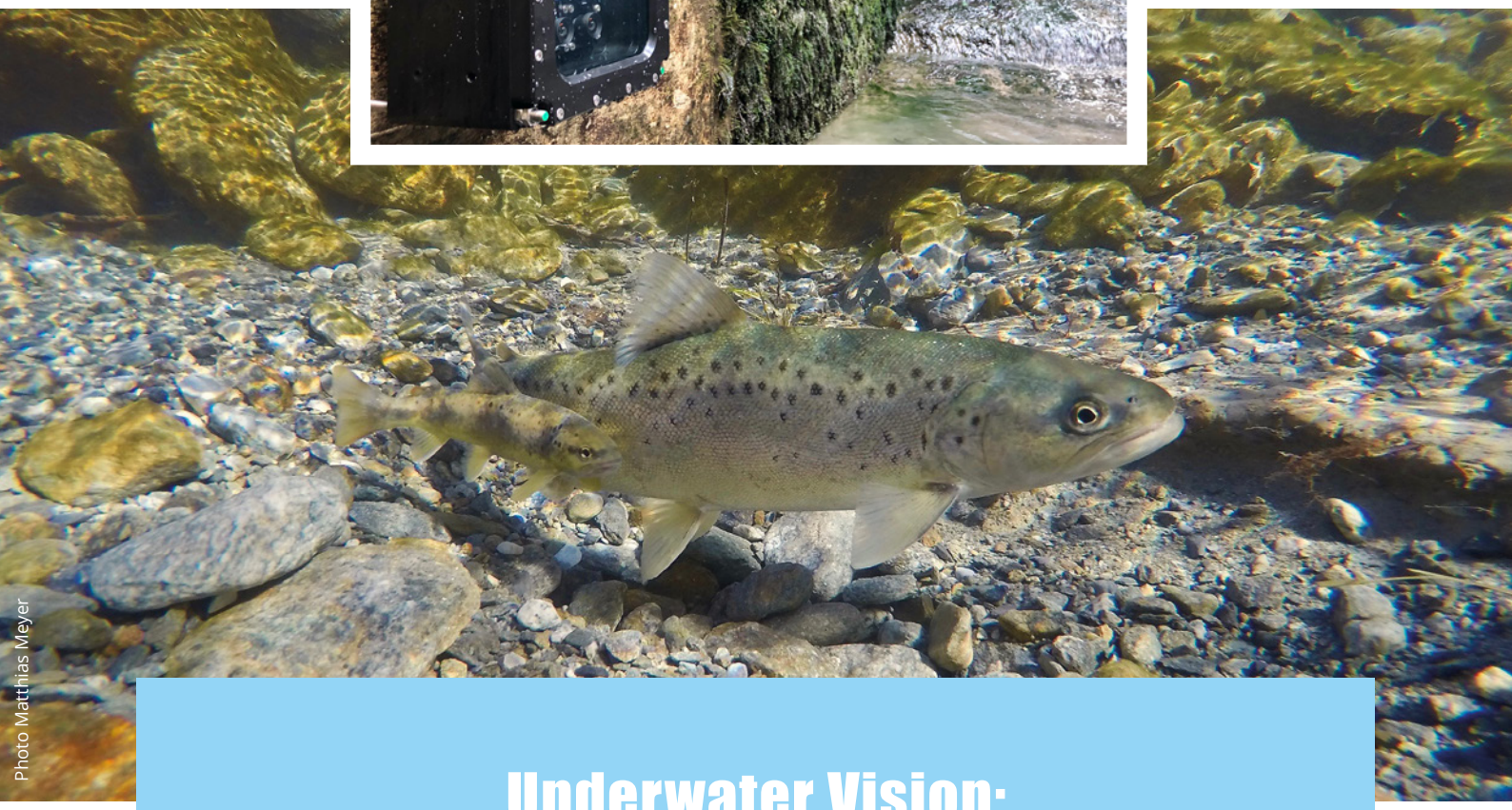


Photo Matthias Meyer

Underwater Vision:
Robust Underwater Camera System for Precise Monitoring in Fresh and Saltwater

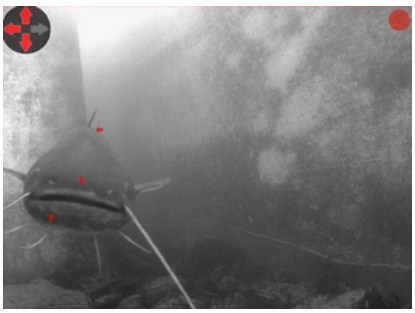
iamhydro.cam

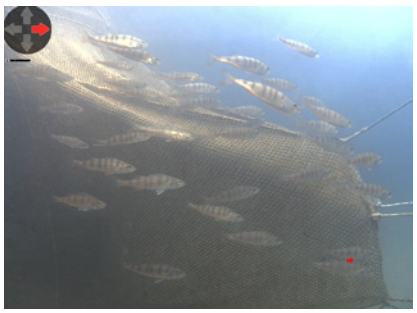
Welcome to the future of underwater monitoring!

Our innovative camera system offers a comprehensive solution for precise and reliable data capture in various environments. With a guaranteed submerged depth of 30 meters and CE conformity, our system is designed to operate in challenging conditions in rivers, lakes, and sea areas. Dive into the world of underwater camera systems and discover how the I AM HYDRO-Cam can meet your underwater needs.

Equipped with high-quality components and extremely robust materials, it provides reliable services in a wide range of applications. In addition, we offer a broad spectrum of accessories, such as a timer-based external wiper that keeps sensors and lighting free from biofilm, and the option of a solar power supply unit with battery storage for autonomous operation of the camera. The combination of quality, versatility, and modern technology makes our camera system the perfect choice for diverse underwater applications, especially when reliability and robustness matter.

The camera system consists of a camera unit with ultra-rugged, machined housing and a triple-layer safety glass in front of the camera sensors and the integrated lighting unit, making it well-equipped to withstand all adversities underwater. A weatherproof control cabinet houses the power supply, modem for remote access to the camera, lighting control, and storage.





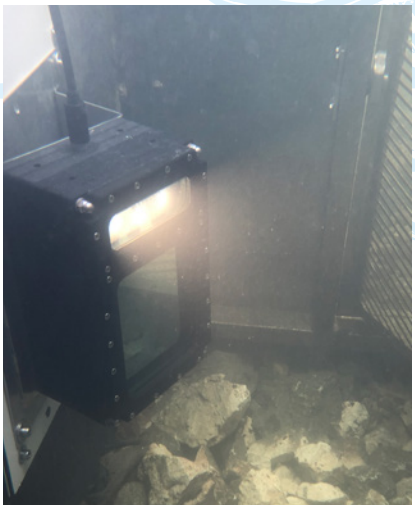
Diverse Applications for Environmental Monitoring and Research

Simple Application for Monitoring at Hydroelectric Plants and Fish Passages: Serves for the surveillance and functional check of fish migration facilities, enabling precise determination of fish passages and supporting the assessment of migration corridors as well as special solutions.

Reliable Technology for Environmental Monitoring: Long-term monitoring to gain insights into species compositions, migratory behaviors, success of revitalization measures, structural and stocking measures, as well as for the sustainable management of bodies of water.

Application in Research and Laboratory Studies: Behavioral studies and laboratory investigations of fish, including complex behavioral analyses.

Special Solutions and Individual Requirements: Versatile application possibilities depending on the specific case, allowing for customized solutions to meet diverse customer needs.



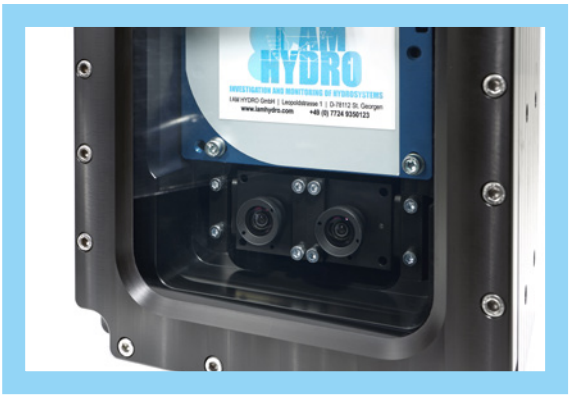
The I AM HYDROCam offers numerous advantages

Precise Data Collection and Data Quality: The high resolution and quality of the recordings enable accurate fish detection and provide a reliable data basis for freshwater and marine applications.

Cost-Effective Monitoring: Compared to traditional methods such as traps or automatic counting systems, our cameras offer a more cost-effective alternative in terms of acquisition, installation, and operation.

Versatility and Flexibility: Our camera system can be installed in hydraulic structures such as fishways, or in wild environments for both periodic and permanent underwater monitoring.

Support by Artificial Intelligence (AI): The optional AI module sorts videos with and without fish in real-time, and can be trained for species, size and migration behaviour for your site-specific needs.



Remote access at any time and from anywhere: Log in to your camera at any time, allowing the systems to be checked, recordings to be checked and system settings or lighting to be changed at any time and from any location.

Warranty and Support Services: Our company guarantees a high-quality product „Made in Germany“ with the I AM HYDROCam and offers comprehensive warranty and support services for smooth use of our camera systems.

Training and Technical Support: Even if you have little technical knowledge, you can easily install and effectively use our camera systems. Our company offers comprehensive training and technical support for installation, maintenance, and optimal handling of our products. With our detailed documentation and operating instructions, you receive all the necessary information to operate our systems safely and without problems. We are always committed to supporting our customers in the best possible way and providing them with a sense of security in using our products.

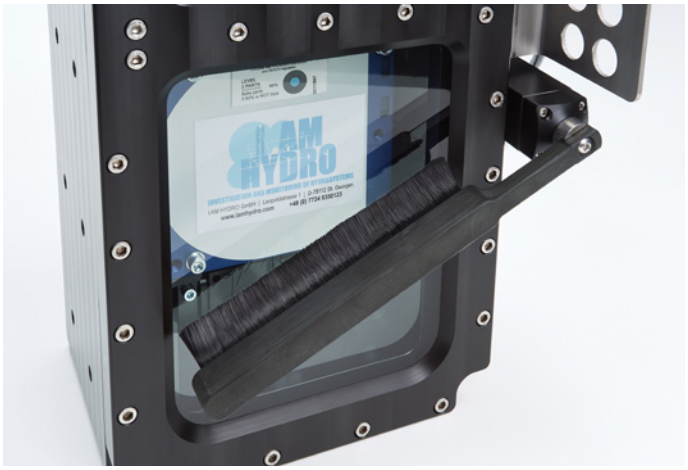
Current Applications of the Camera System

- Installations for information gathering at technical facilities for fish migration, such as fish passes, fish locks, fish lifts, bypass channels, bypasses, fish descents, special solutions, etc.
- Efficiency studies of capture facilities like traps, counting chambers, or catching chambers.
- Monitoring in flowing waters for various questions, such as monitoring migratory fish, long-term monitoring of species composition at a site.
- Installation for monitoring fish protection devices like screens, electric deterrent systems, behavioral barriers, etc.
- Public relations and knowledge transfer about the local underwater world, for example, at information terminals or as an underwater webcam.
- Other applications include research, laboratory experiments, surveillance and infrastructure security, aquaculture, as well as ocean and reef monitoring.

Outstanding Features and Intelligent Technology Combined

Tough to the Core: The camera housing was torn off a cliff face during a debris flow and retrieved from the debris collector below the installation site. The housing and safety glass were heavily damaged, but there was no water penetration into the housing, and the camera system is now back in operation in a new housing.

Clear Vision: The available timer-based wiper accessory keeps the camera and the lighting unit permanently free from biofilm growth, ensuring optimal visibility and illumination.



Robust Hardware Meets Reliable AI: The hardware, tested over years, now meets AI, transforming it into a smart monitoring unit for your fish-specific inquiries. This enables the automated detection of fish, identifying the species, size, and, for example, the direction of migration.

Proven Time and Again and Continuously Improved: Since the first camera version in 2016, we have been continuously working on developing the cameras further and equipping them with numerous accessory options to reduce the effort for the user. A variety of camera systems are now in use across Europe in a wide range of applications. From Norwegian fjords to Portuguese rivers, from alpine waters to the lowlands, the I AM HYDROCam provides reliable, robust and excellent underwater vision with unparalleled quality at a reasonable price.

Technical Specifications of the I AM HYDROCam

Camera Unit	315 x 200 x 110 mm (H x W x D)
Daylight Sensor	Farbe, 1/1.8“ CMOS, 6MP (3072 x 2048), 92° angle of view
Night Sensor	S/W, 1/1.8“ CMOS, 6MP (3072 x 2048), 92° angle of view
Lighting	infrared, white light and UV continuously adjustable
Rated Depth	30m

Logger Box	Weatherproof Metal Control Cabinet
Dimensions	400 x 300 x 155 mm (H x W x D)
Storage	4TB (expandable if needed)
Modem	integrated and expandable with a powerful computing unit for AI applications
Powersupply	10-48V DC or 230V AC
Consumption	4W without NAS, up to ca. 20W with NAS or AI Board
Data export	via USB 3.2, Network or WiFi
	Integrated motion detection with optional AI
	CE-Conformity

The story of the I AM HYDROCam

Since its founding in 2013, I AM HYDRO GmbH has followed a continuous path in the field of camera-based fish monitoring. Beginning with our experience in Scandinavia, we started our journey with analog video recorders. As digitalization progressed, we attempted to benefit from the advantages of newer systems on the market. However, we did not find the ideal solution for our specific needs, which inspired us in 2016 to develop and manufacture our own camera system with integrated, multispectral lighting in collaboration with Tallinn University of Technology.

Our goal was to optimize and make our own monitoring processes more reliable, as we were dissatisfied with the existing products on the market. In 2017, the first prototype was successfully built and tested. In 2018, we launched the first series and installed our cameras for the first time in Switzerland, Austria, and Germany. Since 2018, more than 60 cameras are actively in use; some serve short-term periodic monitoring needs, others are permanently installed for reliable, long-term monitoring.

Continuous development of our system was essential. In 2023, we subjected our camera system to EMC testing and are proud of the system's CE conformity. Originally developed for our own use, our camera system has evolved into a reputable and reliable product „made in Germany". As of 2023, over 60 I AM HYDROCam systems are in use within Europe.

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