

## Underwater telepresence for conservation, education and science

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Recent advances in high-definition web-enabled cameras make possible live video from nearly any place on the planet. The ability to view and control cameras remotely is giving rise to a new world of telepresence. These new technologies are discussed and are shown applied to the areas of ocean conservation, education and research. Several applications are cited from the use as an virtual aquarium to live streaming video from the bottom of oceans of the world.

Since 2006, OPT has been designing and manufacturing advanced underwater IP video products including cameras, lighting, data recorders and wireless network components. Remotely operated pan-tilt-zoom high-definition Internet cameras are now being employed in research, education, security and other commercial oceanographic applications.

The Manta Network is a 501(c)(3) non-profit international organization dedicated to the protection and conservation of manta and mobula rays worldwide. With the aid of volunteers, it is focusing on education and building awareness of issues affecting the well-being of manta rays. Its mission includes the creation of a global network of manta researchers, sport divers, photographers, dive and tour operators, corporate sponsors and individuals who will all work together to further the efforts to protect these magnificent creatures.

### Biography

Robert Aston, M.S., Earth Science University of California, Santa Cruz, is the President of Ocean Presence Technologies and managing director and founder of The Manta Network. He has more than 40 years experience with underwater photography and video, data analysis, computer modeling and graphics.

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