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Communicating cutting-edge marine science through immersive virtual reality: contributions from I SEA project

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The Atlantic International Research (AIR) Centre underlines the need for developing new communication strategies to bridge society with cutting-edge research and for educating stakeholders to generate awareness, understanding, engagement and critical support. The I SEA project focuses on the Azorean deep-sea, emphasizing some of the scientific areas of the AIR Center (deep ocean science and marine ecosystems valorization). It aims to develop a non-obtrusive, valid and replicable method to evaluate audience attitudes about science communication initiatives through an immersive virtual reality environment (VRE). The prototype will be hosted by Azores' Science Centers, namely the Expolab and the Fábrica da Baleia - Azorean Sea Observatory (OMA). This communication reflects on the process of selecting the ecosystems and the trade-off model between development and sustainability underlying the VRE narrative. The choice of ecosystems (water column, hydrothermal vents, and coral gardens) was based on an iterative process of reviewing recent literature, consulting stakeholders and experts, and promoting discussion within the multidisciplinary team. Corals are expected to be familiar, attractive and perceived as fragile. Hydrothermal vents hold a unique richness in scientific content (e.g., chemosynthesis). Navigation through the water column offers a chance to observe biodiversity, including bioluminescent species. The narrative of the VRE asks visitors to solve socio-scientific dilemmas, without offering shortcuts for perfect outcomes. Instead, it confronts visitors with mixed results on the ecosystems, society or both, triggering the need for further making sense of the relation between science and society. Results from the fieldwork in the science centers will be discussed.