Underwater images acquisition and processing system

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Identificativo proposta:TOIT20211012001 **RICHIEDI MAGGIORI INFORMAZIONI**

An Italian research team has developed an innovative low-cost stand-alone intelligent instrument for underwater image acquisition and processing.The technology is based on algorithms that combine computer vision and artificial intelligence methodologies aimed at providing an interpretation of the image content, optimizing the transmission of the image relevant content and adaptively changing the camera behaviour. The researchers are interested in commercial agreement with technical assistance.

An Italian research group has developed an innovative technology: a programmable, autonomous and stand-alone intelligent imaging system. The system allows the acquisition and processing of images containing subjects whose size is larger than 1cm (e.g. gelatinous zooplankton, fishes, litter, manufacts), form the seafloor or along the water column, in shallow or deep waters. It is capable to recognize and classify the image content through pattern recognition algorithms that combine computer vision and artificial intelligence methodologies. The relevant content of the acquired images is stored on board or transmitted through the communication facilities of the imaging system (e.g. acoustics or satellite modem). The use of such an image acquisition and processing system, installed on fixed or mobile platforms (e.g. cabled or stand-alone observatories, lander, AUV -autonomous underwater vehicle-, Argo Floats, drifter buoys, sea gliders), allows for low cost and long lasting underwater monitoring activities at local or regional scale. The researchers are looking for a commercial agreement with technical assistance, focused on the use of the intelligent camera for the development of innovative marine observing systems (e.g. stand-alone and cabled observatories, autonomous underwater vehicles) or for its exploitation in applications dealing with the underwater monitoring of either marine environment (e.g. biodiversity, commercially relevant species, invasive species, MPA restoration) or artificial infrastructures (e.g. arbour infrastructures, underwater pipelines, offshore platforms and wind-farms).

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