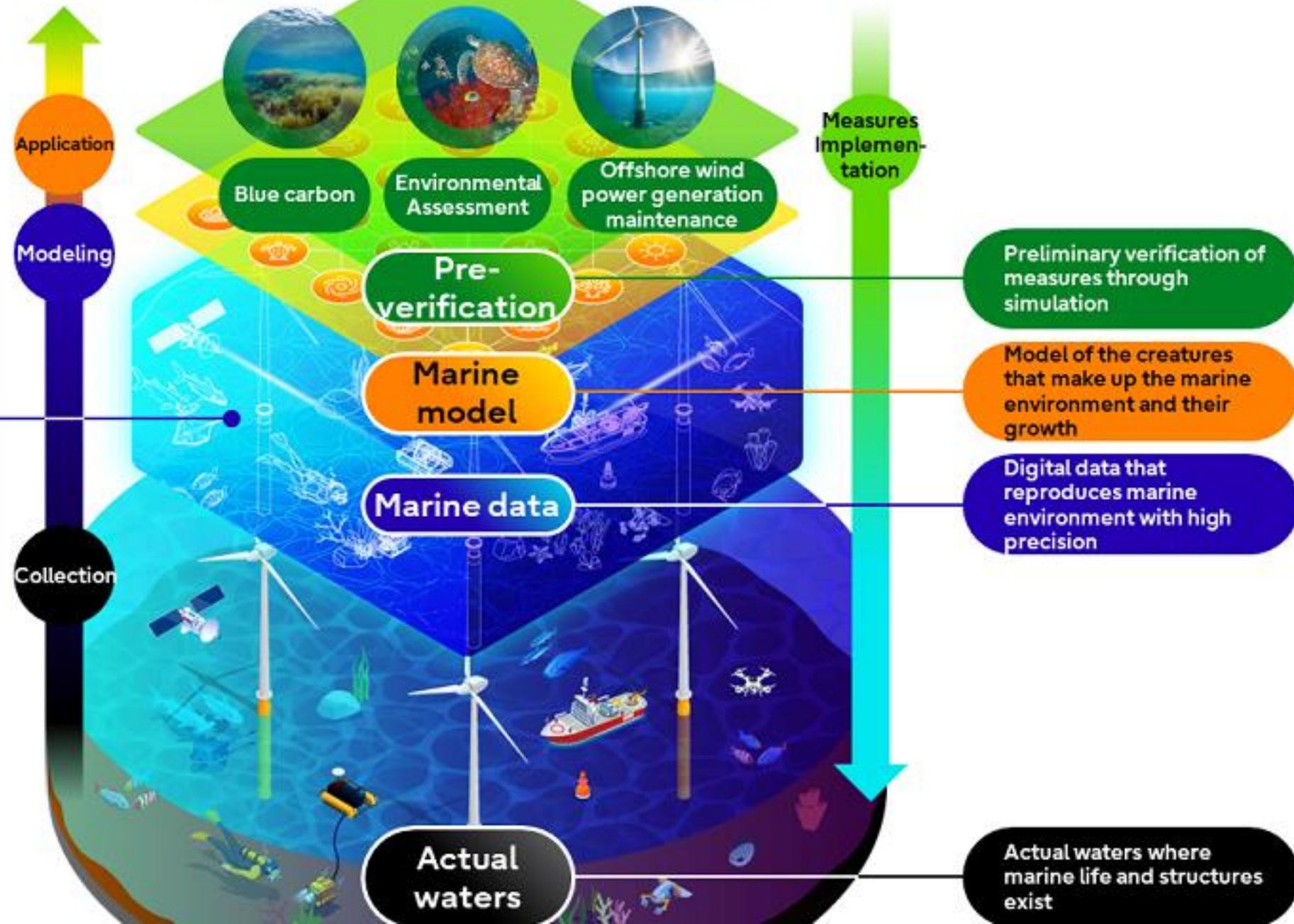
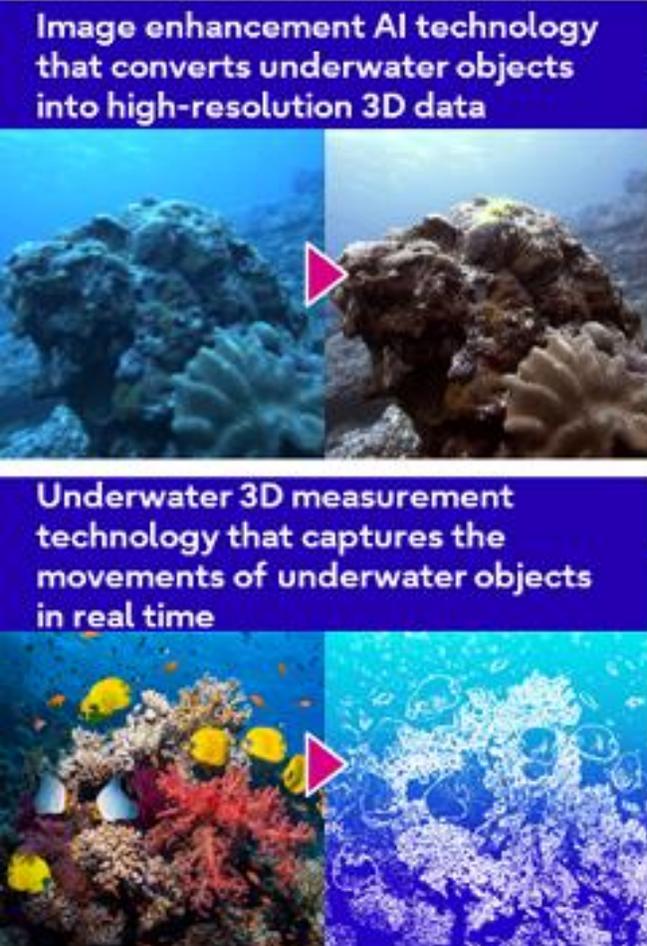
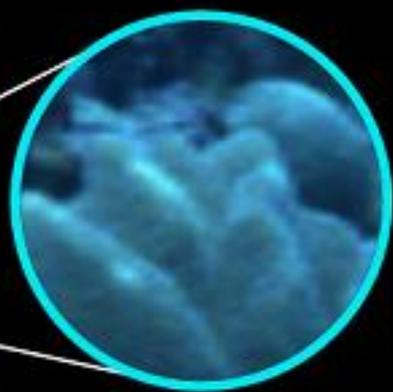


# Ocean digital twin



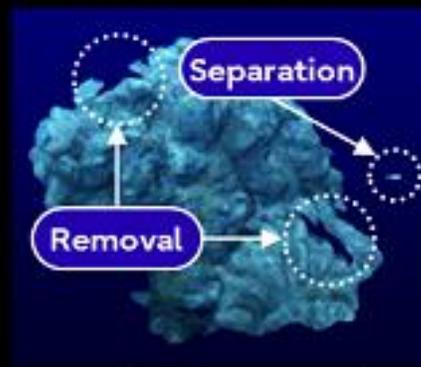
Without image enhancement



Blue color covering,  
Blur

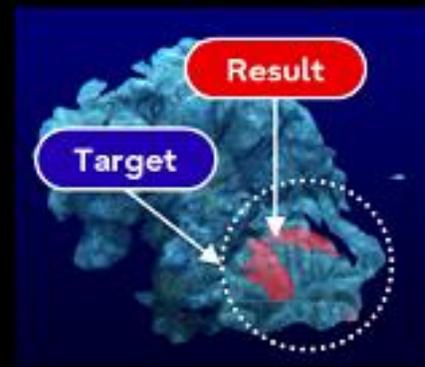
Enhancement

3D Data conversion



Color cast and  
3D conversion  
error occurs

Object recognition /  
Volume estimation



Recognition error  
occurs

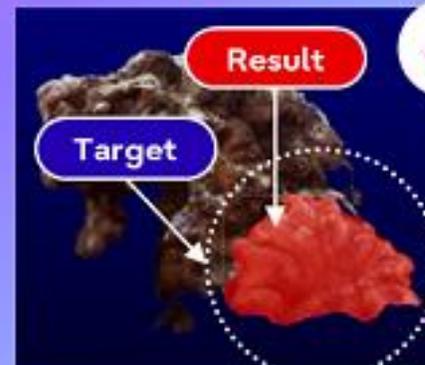
With image enhancement



Color restoration,  
Blur suppression



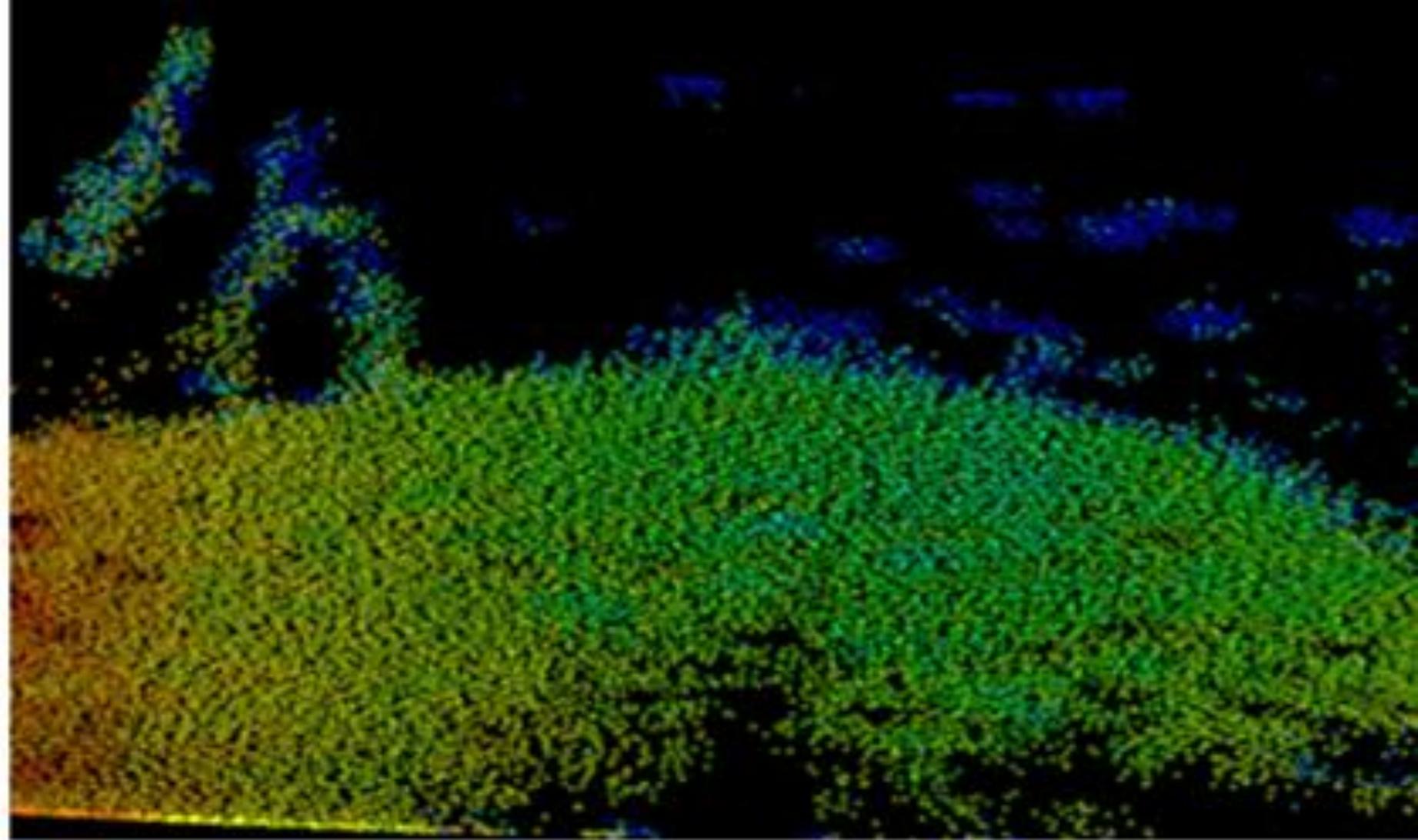
High-resolution 3D  
shape suppresses  
color cast and 3D  
conversion errors



Accurate  
recognition



ects



3D point cloud (color represents distance)

# AUV-ASV connected system



ASV

Wired cable

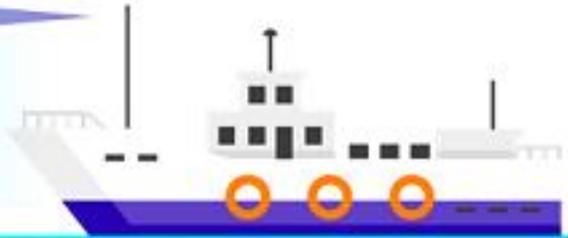


AUV

Underwater sensor



Acquires data by installing an underwater sensor on an AUV



Research vessel

Wi-Fi

Wi-Fi

