



Maki Lab.

[Light for the sea, adventures for the robots]

Underwater Technology Research Center

<http://makilab.iis.u-tokyo.ac.jp/>

Underwater Platform Systems

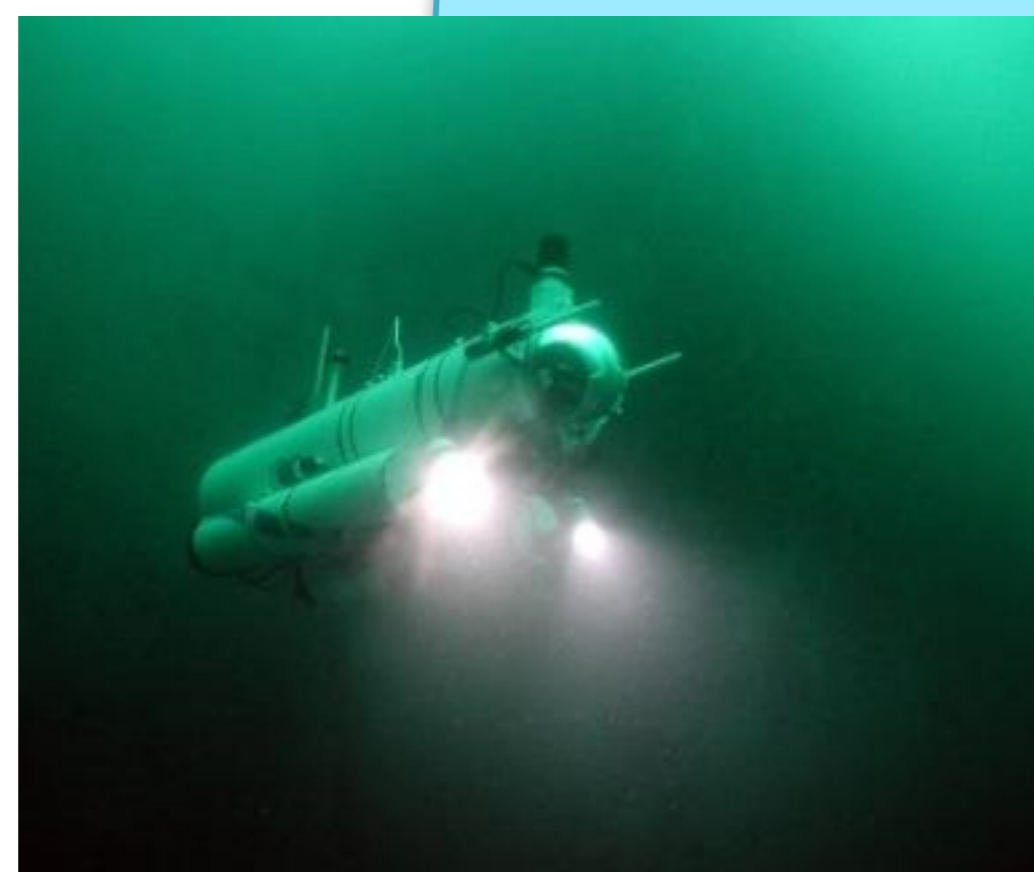
Graduate School of Frontier Sciences
Department of Ocean Technology, Policy and Environment

Future systems for seafloor observation

We tackle the development of new systems for underwater observation, by means of latest technologies of robotics and informatics. These systems will realize wide-area, high-accuracy, and long-term observation through collaboration of multiple autonomous agents like autonomous underwater vehicles (AUVs).

PLATFORM

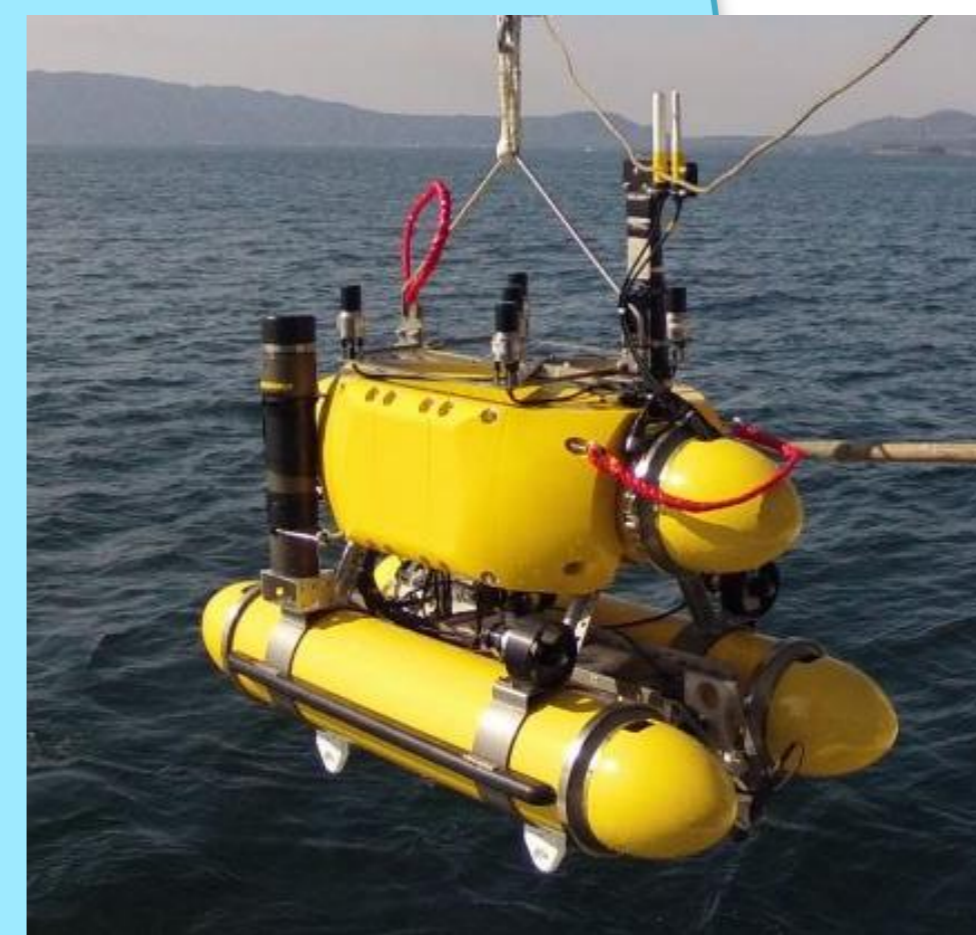
- Development of autonomous underwater platforms
- Non-contact charging
- Power generation from hydrothermal chimneys



AUV Tri-Dog 1



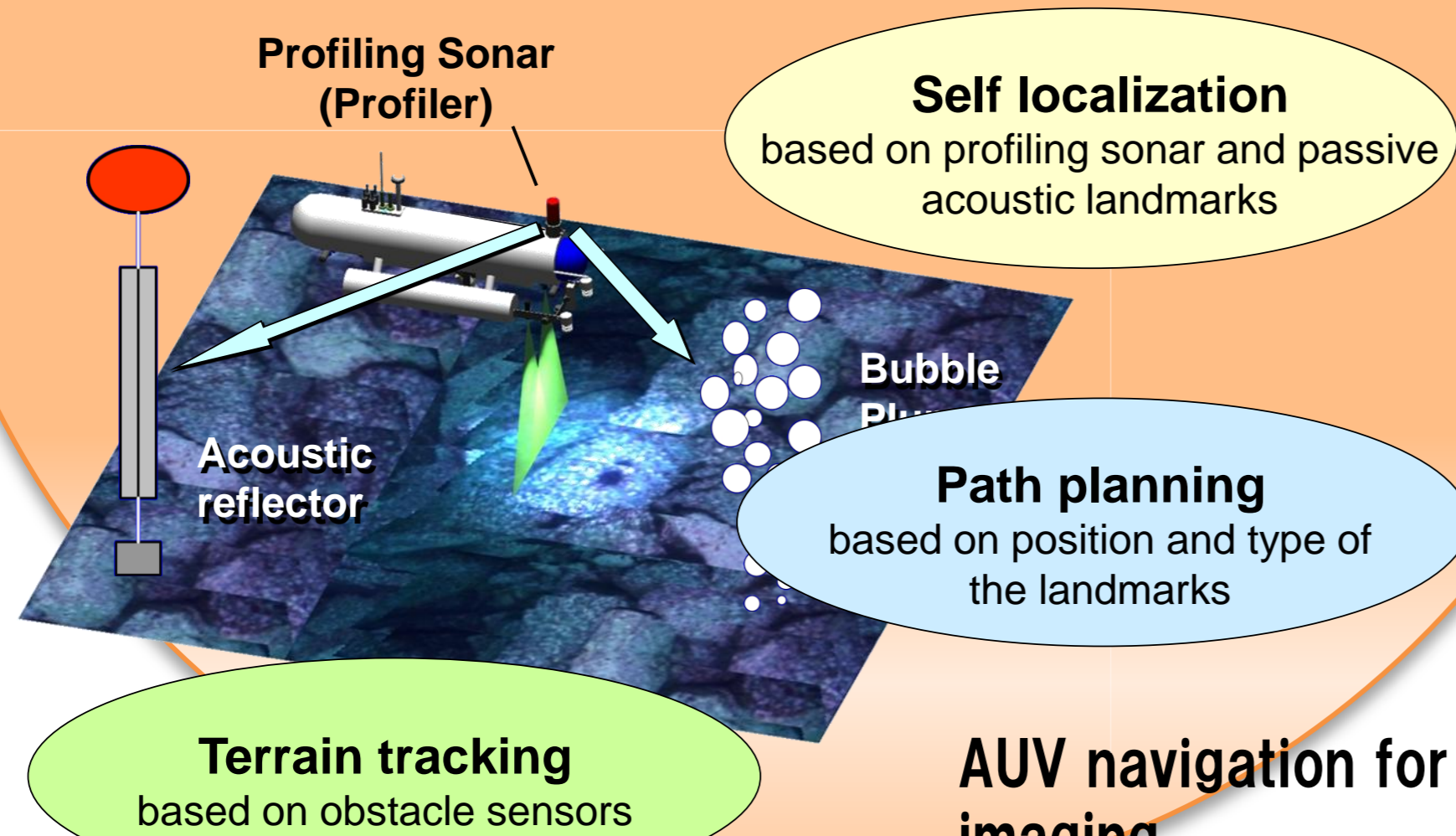
Seafloor Station (type A)



AUV Tri-TON

NAVIGATION

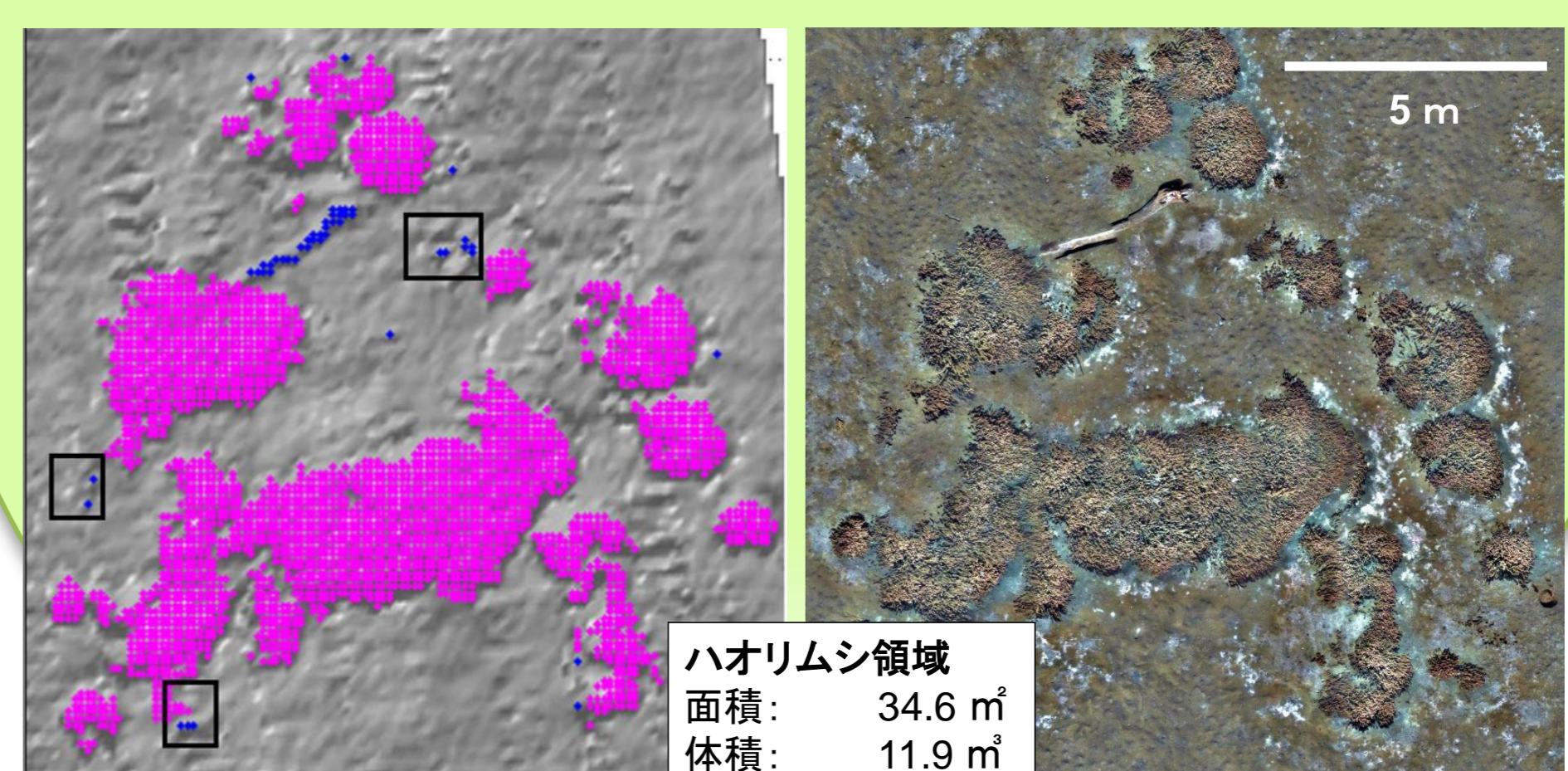
- Mutual acoustic positioning
- Probabilistic state estimation
- Terrain tracking, Obstacle avoidance
- Path planning



AUV navigation for seafloor imaging

DATA PROCESSING

- Seafloor imaging (2D, 3D)
- Automated detection of a specific benthos
- Database



Tube-worm colonies at Kagoshima bay

ハオリムシ領域
面積: 34.6 m²
体積: 11.9 m³
平均高さ: 0.3 m