

Supplementary Material

Supplementary 1: Description of application types

Hydrographic surveys: bathymetric, archaeological, benthic habitat

Ecological survey: acoustic-tag tracking, fish biomass, passive acoustic monitoring, acoustic monitoring

Inshore surveillance: port/harbor surface target tracking, port/harbor subsurface target tracking

Offshore surveillance: offshore asset protection (communications and offshore nuclear reactor), sovereign maritime security, persistent ocean surveillance

Infrastructure protection/inspection: Infrastructure quality surveys and inspections (bridges, dams, subsea cables/pipelines, offshore platforms), automated boom deployment, hull-cleaning vessels, monitoring underwater dredging, submerged infrastructure during floods.

Pollution control: onboard water sampling, pollution detection, radiation detection, spill boom deployments, plume tracking, marine debris

Environmental monitoring: water quality monitoring, water quality sampling, on-board sample processing, meteorological monitoring, sea surface height, wave height, velocity profiling (ADCP), microorganism collection, air-sea/air-sea-ice flux measurements, tracer dispersion tracking

SAR or search: flood disaster relief, sub-sea wreckages, detection and tracking contacts, transport and release of rescue/survival equipment, search and rescue

Collaborative with multiple unmanned vehicles or multi-USV: tracking, docking, launching and recovering other remotely operated or autonomous platforms, data transfer between remotely operated or autonomous platforms, power supply, rendezvous planning, umbilical linking, collaborative surveillance, navigation aid for subsea vehicles.

Military: guarding civilian boats, antisubmarine warfare, surface warfare, mine warfare, intelligence, surveillance and reconnaissance, electronic warfare

Mine counter measures: target detection and reporting

Supplementary 2: Commercial USV makes, hull type and design assessment

Commercial USV	Published paper counts	Hull type	Designed for Unsheltered and Unescorted (UU) or Escorted or Sheltered (ES)
Autonaut	1	single	UU
CatOne	1	multi	ES
C-enduro	1	multi	ES
C-worker	1	not self-correcting	ES
Charlie	3	Multi	ES
Edredon	1	not self-correcting	ES
EMILY	1	Single	UU
Kth ANKA	1	Multi	ES
L3	1	Multi	ES
M40	1	Multi	ES
MANTA	2	Multi	ES
ROAZ	3	Multi	ES
Saildrone	10	Single	UU
Seafox USV	1	not self-correcting	ES
Seagull	1	Multi	ES
SEA-KIT	1	Single	UU
SEA-RAI	1	Multi	ES
SMARTboat	1	Multi	ES
Smart-sonar-boat	1	Multi	ES
SWATH	1	Multi	ES
SWORDFISH	1	Multi	ES
Teledyne Oceanscience z-boat 1800	1	Multi	ES
Telemetron	1	not self-correcting	ES
WAM-V	5	Multi	ES
WASP	1	Single	UU
Waveglider	13	Single	UU
WeMo	2	Multi	ES