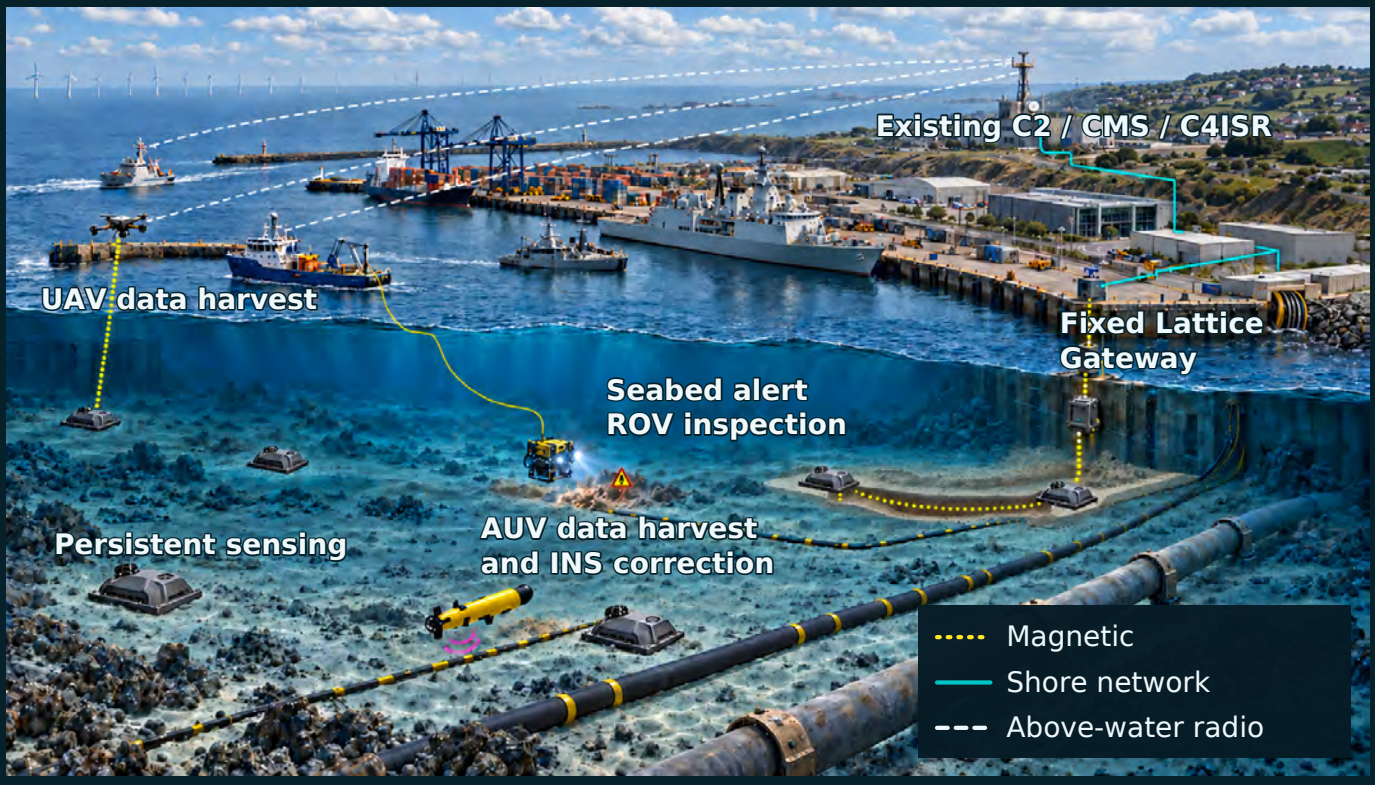
Ocean Information Services
Autonomy for the Environment

SeaWay Dome

Persistent seabed sensing, communications and underwater navigation



Device spacing and link lengths are not to scale.

Persistent access between patrols

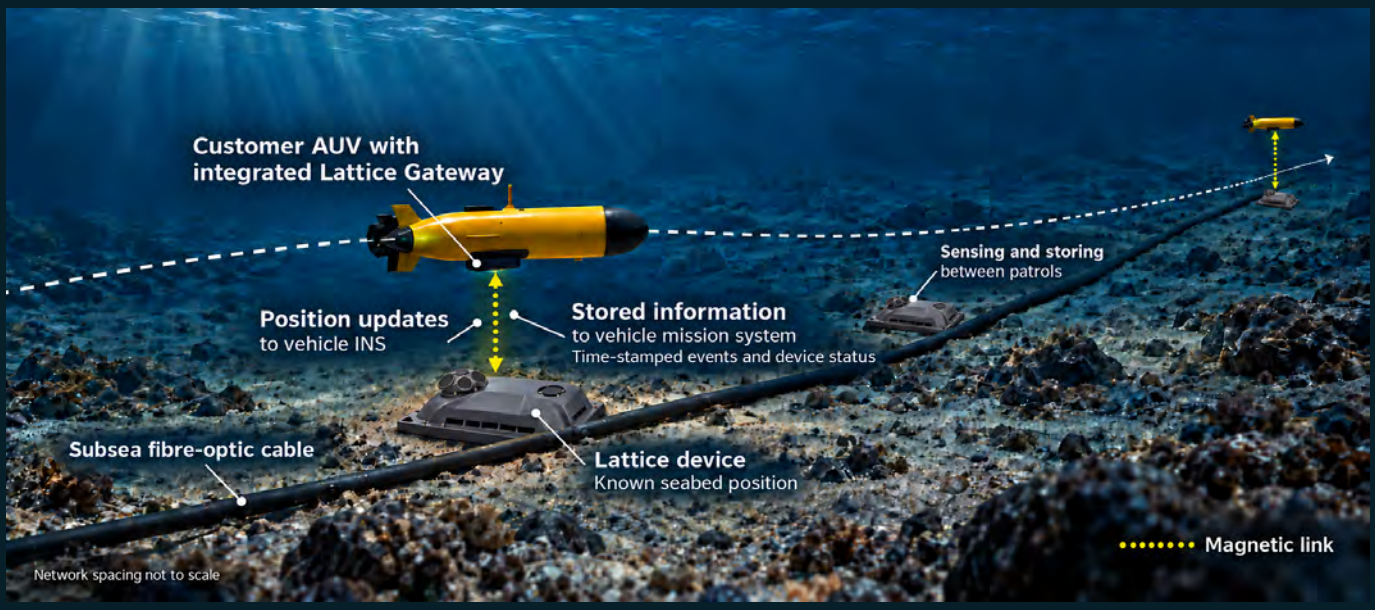
Magnetic communications provide persistent access in seawater, turbid water and buried installations. Environmentally non-deniable within the operating envelope, this access needs no optical visibility or acoustic path. Local exchange supports low probability of intercept. Edge processing and storage preserve information between patrols.

An underwater GNSS-equivalent network

Lattice devices provide position updates for AUV INS correction and repeatable routes. Nearshore networks report to shore. AUVs collect remote records, with UAV collection in shallow water. Magnetic links can carry GNSS-derived information across the water-air boundary.

Integration with existing command systems

Feed seabed events, location, time and device status into existing C2, combat management and C4ISR systems. Correlate subsea changes with radar, AIS and other surveillance information to focus inspections and patrols, reduce vessel visits and protect critical infrastructure.



Standard Lattice seabed device

Persistent sensing, magnetic communications and AUV navigation support.

Item	Specification	Comments
Operating depth	**1,000 m**	3,000 m optional
Temperature accuracy	**±0.5 °C**	Ambient seawater
Pressure accuracy	**±0.05% FS**	Range matched to operating depth
Passive acoustics	**10-500 Hz**	Lattice VMS sensor
Vibration / motion	**±2 g**	Six-axis IMU, ±4 g / ±8 g optional
Motion sampling	**10 Hz**	Configurable to 400 Hz
Inclination accuracy / resolution	**±0.2° / 0.01°**	
Magnetic communications	**50 bit/s**	Standard
Magnetic range - seawater	**50 m**	At 50 bit/s
Magnetic range - across seabed	**150 m**	At 50 bit/s
High-rate magnetic communications	**100 kbit/s**	Optional, 10 m through seawater
Other communications	**-**	BLE, optional acoustic
AUV navigation	**-**	Magnetic position updates to vehicle INS
Battery operating life	**5-10 years**	Primary, hot-swappable battery pack, duty dependent
Dimensions, L × W × H	**1.00 × 1.00 × 0.65 m**	Reference platform, enclosure dependent
Weight - air / submerged	**35-90 kg / 20-45 kg**	Configuration dependent
Enclosure	**-**	Adapted according to operating environment
Processing / storage	**-**	Edge processing, time-stamped local storage
ADCP profiling range	**200 m**	Optional, up to stated range, conditions dependent
Environmental sensing	**-**	Optional pH, conductivity, turbidity and dissolved oxygen

FS = full scale. Passive acoustics is sensing. Magnetic links are standard. Range and optional sensor depth ratings depend on configuration.

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