Ramses

Next-generation long baseline medium frequency and low frequency positioning systems

Ramses is an acoustic synthetic baseline positioning system (ASBL) designed for simple sparse-LBL subsea navigation. Tightly coupled with iXblue inertial navigation system (INS), it delivers extreme precision and robustness using greatly reduced amount of transponders compared to LBL. Available in MF and LF versions (low frequency for ultra-long range applications), Ramses is key part of iXblue inertial-acoustic solutions for subsea positioning.

FEATURES

- Sparse LBL positioning, with SLAM capability
- Full embedded processing, no top-side required
- Centimeter range measurement precision
- Tight coupling with all iXblue INS
- Open system: operates with iXblue and third party transponders

APPLICATIONS

- Oil & Gas
- Oceanography
- Salvage
- Survey
- Metrology
- AUV
- ROV

BENEFITS

- Simplified mobilization, for ROVs and AUVs
- LBL-grade navigation accuracy, w/ superior precision
- Reduced number of required transponders
- Flexible array deployment thanks to SLAM

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TECHNICAL SPECIFICATIONS

Performance / Characteristics

	Ramses 6000 (LF band)	Ramses (MF band)
Operating frequency	8 - 17.5 kHz	20 - 30 kHz
Distance measurement accuracy (1)	< 0.05 m	< 0.05 m
Position accuracy (INS aided, 2 transponders)	< 0.10 m	< 0.10 m
Maximum range (1)	8,000 m	4,000 m
Depth rating	6,000 m	6,000 m
Compatible Transponders	iXblue Oceano LF range	iXblue Oceano MF range +Third party transponders
Compatible USBL	With iXblue Posidonia	With iXblue Gaps
Interfacing	iXblue web MMI Ethernet, Serial, pulses	iXblue web MMI Ethernet, Serial, pulses
Power supply	12/36 Vdc / 9W	External, 12 / 36 Vdc / 9W
Construction	Titanium Remote Transducer	Duplex Stainless Steel Remote Transducer
Weight (air / water) kg	11 / 55	18 / 12
Size (OD x length) mm	505 x 126	505 x 126

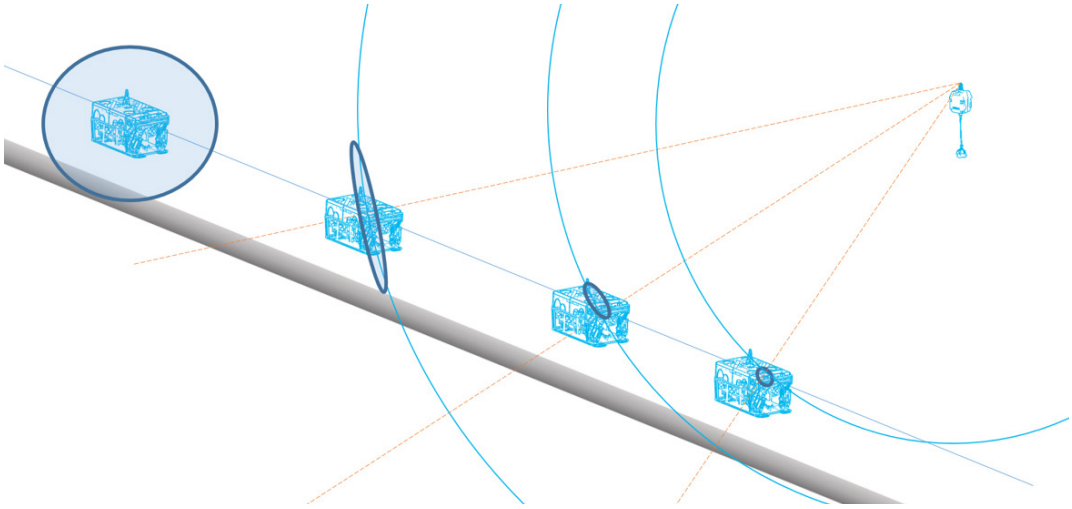
1 Depends on environment condition and propagation

Tight Coupling with iXblue INS

Ultimate ASBL Performance and Reliability

Thanks to its full embedded architecture, RAMSES delivers the best possible aiding data to your iXblue INS, with perfect time-stamping and extremely reduced latency.
Unlike standard LBL which require a minimum of 4 transponders to compute a single position, INS-RAMSES Kalman filters get aiding from each and single measured range.

This optimum data fusion brings amazing robustness to the positioning, ultimately making possible non-drifting subsea navigation with one single transponder deployed.
This is iXblue Acoustic Synthetic Base Line (ASBL).



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SLAM calibration technique

Redeploy transponders to build a flexible array

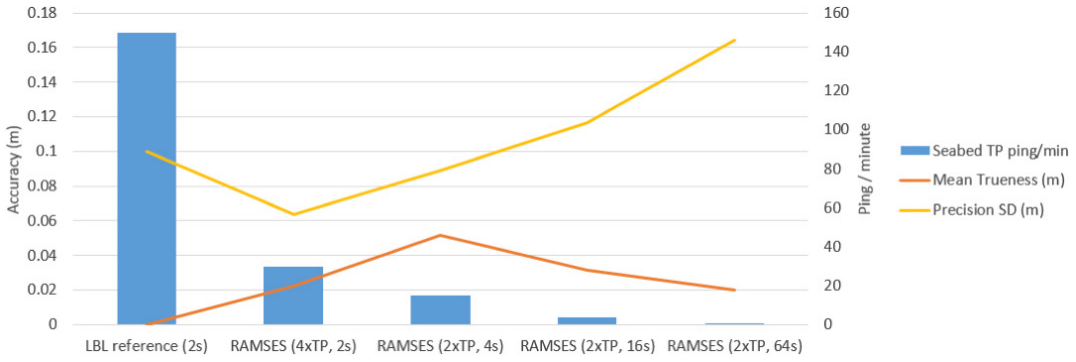
Using embedded SLAM algorithms, RAMSES can extend and calibrate local arrays in not more than 30min, from shallow to 6000m water depth.

Decimeter precision is quickly obtained where needed, without deploying a full LBL array

Increased performances...

With exponential savings

- Smoother navigation than LBL...
- ... with extreme robustness to acoustic outages
- LBL-grade survey performances are achieved with half of the transponders deployed
- Reduced field maintenance thanks to average 90 to 99% battery savings of seabed transponders



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