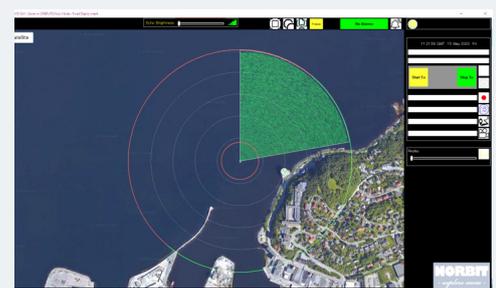
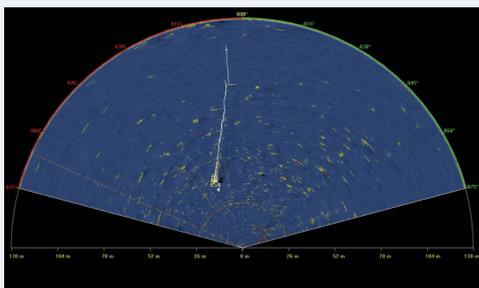


# DIVER DETECTION SONAR

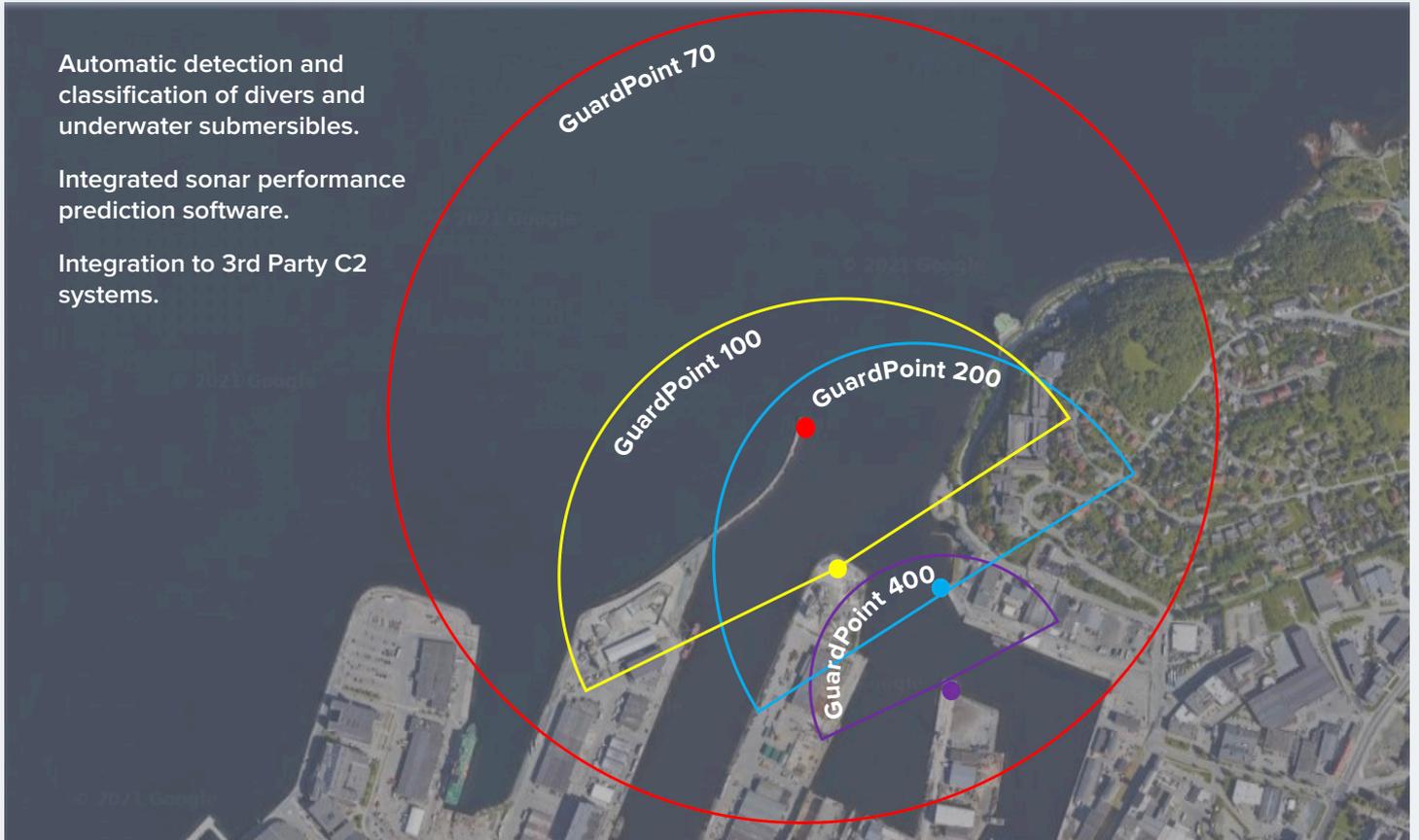
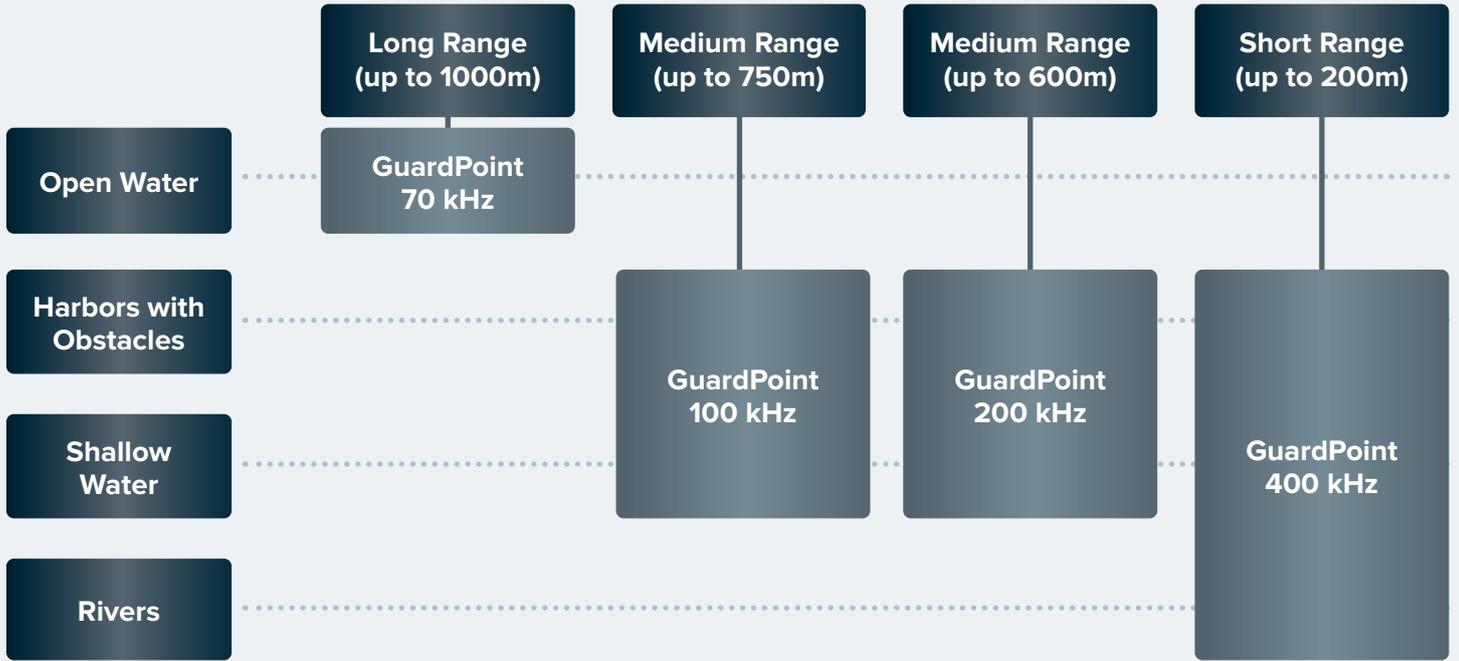
NORBIT, with a vast pedigree in underwater acoustics, designs and manufactures a variety of diver detection solutions. Different sonar heads, at different frequencies and different characteristics can adapt to any situation and application. All sonars are complemented by GuardPoint™ Tracking Software.



	GuardPoint 70	GuardPoint 100	GuardPoint 200	GuardPoint 400
<b>Naval Ships</b>	✓			
<b>Naval Bases</b>	✓	✓	✓	✓
<b>Commercial Ports</b>	✓	✓	✓	
<b>Power Plants</b>	✓	✓	✓	✓
<b>Oil Rigs/FPSO</b>	✓	✓		
<b>Border Security</b>	✓	✓	✓	✓
<b>Cruise Ships</b>	✓			
<b>Luxury Yachts</b>	✓			



# APPLICATION SUMMARY



# TECHNICAL SPECIFICATION SUMMARY

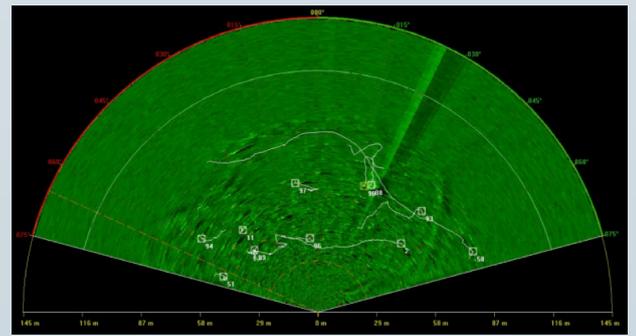


	GuardPoint 70	GuardPoint 100	GuardPoint 200	GuardPoint 400
<b>Applications</b>	Ideal for open waters and portable deployment	Ideal for detection of closer and deeper targets (divers and vehicles) thanks to NORBIT's unique electronic vertical scanning technology		Ideal for shallow waters and detection of closer targets
<b>Horizontal Coverage</b>	Up to 360°	Up to 180°	Up to 180°	Up to 180°
<b>Vertical Coverage</b>	12°	20° scanning	20° scanning	20°
<b>Deployment Depth</b>	30m	100m	100m	100m
<b>Frequency</b>	70 kHz	100 kHz	200 kHz	400 kHz
<b>Detection Range (in ideal conditions)</b>	Open Circuit Divers: 800m Closed Circuit Divers: 400m AUV, SDV, Minisubs: 1000m	Open Circuit Divers: 600m Closed Circuit Divers: 300m AUV, SDV, Minisubs: 750m	Open Circuit Divers: 500m Closed Circuit Divers: 250m AUV, SDV, Minisubs: 600m	Open Circuit Divers: 150m Closed Circuit Divers: 100m AUV, SDV, Minisubs: 200m
<b>Weight (in air)</b>	42 kg	20 kg	12 kg	2.9 kg
<b>Input Voltage</b>	110 -240 VAC			
<b>Operating Temperature</b>	Sonar Head: -4°C to +40°C Topside Unit: -20°C to +45°C	Sonar Head: -4°C to +40°C Topside Unit: -20°C to +55°C		
<b>Software</b>	All sonar heads are provided with GuardPoint™ Automatic Classifier & Tracker, automatic alarms generation, unattended operation, tracking information, arrival time to asset.			
<b>Options</b>	NORTrace™ performance analysis and prediction software, Sound Velocity Profiler, pier and seabottom steel brackets, loudhailer.			

# SOFTWARE AND LOUDHAILERS

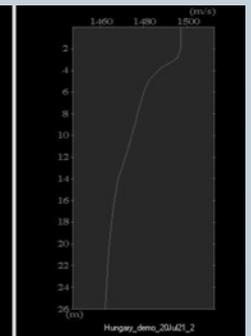
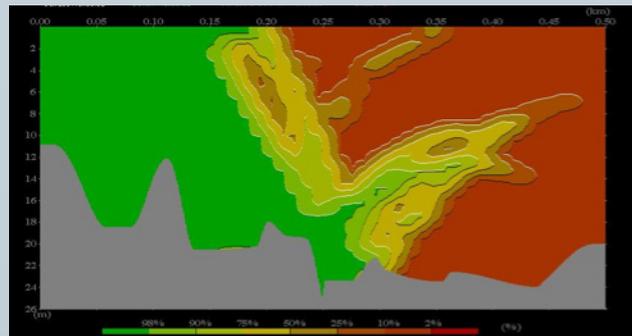
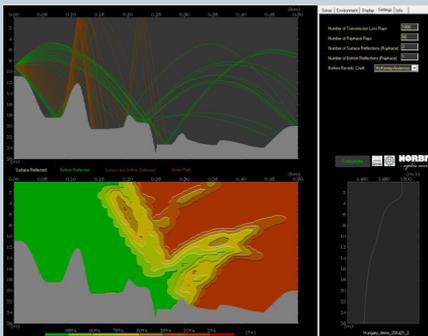
## GUARDPOINT TRACKING SOFTWARE

All NORBIT GuardPoint™ Sonars rely on a sophisticated, yet user-friendly tracking and classification software which can identify and follow multiple threats simultaneously while minimizing false alarms. Diver tracks from different sonars can be merged into one single event in a common scenario and the interface is easy to use for professionals as well as for non-sonar operators. Among the information provided by the GuardPoint software: type of threat (e.g. close circuit diver, open circuit diver, etc..), bearing, range, speed and course of the threat, and time to asset.



## NORTrace

Underwater propagation conditions change on a daily and sometimes hourly basis and affect underwater propagation and probability of detection of any sonars. NORTrace Sonar Performance Prediction software calculates the sound signal propagation underwater with given parameters. Calculation and Computation Engine is based on Ray Theory with validated Noise, Sonar, Target and Environment models. NORTrace can be used to estimate the performance of a variety of active sonar systems such as Diver Detection Sonar, Anti-Submarine Warfare sonar and Mine Detection and Classification Sonar.



## LOUDHAILER

GuardPoint software is interfaced with a military approved loud hailer to communicate with intruders and alert them to leave the protected areas. Several messages in different languages at several intensity levels can be programmed and announced.

