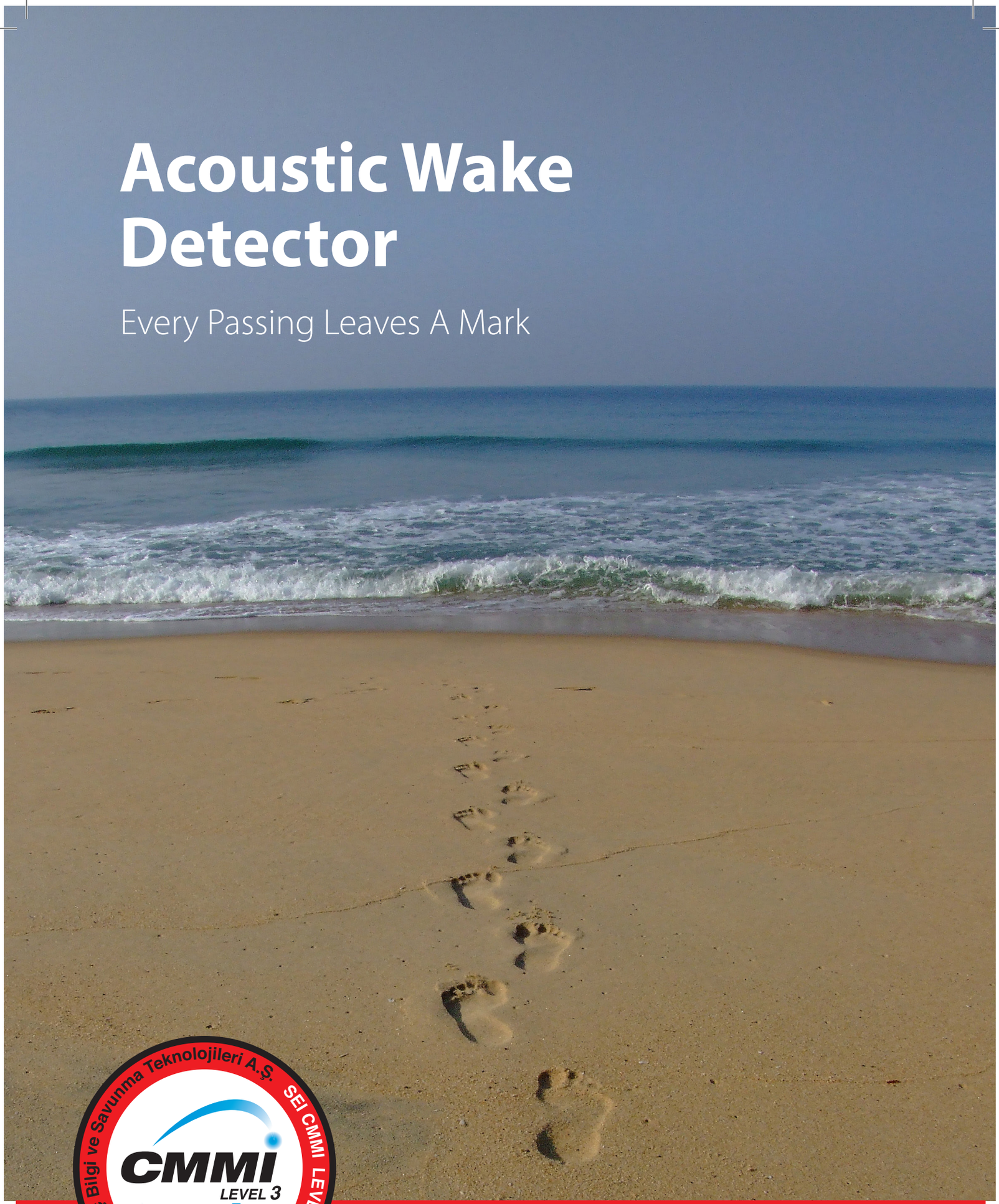
Acoustic Wake Detector

Every Passing Leaves A Mark



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Koç

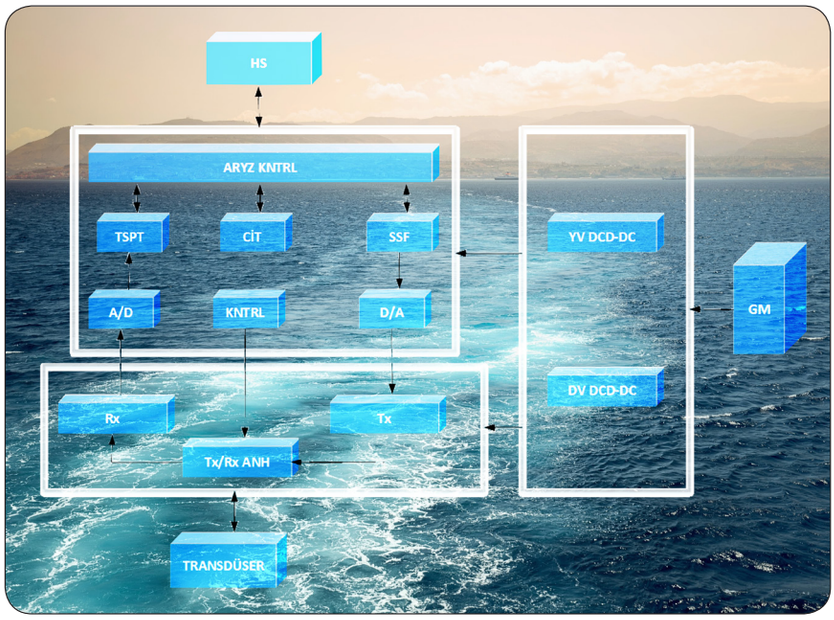
Koç Bilgi ve Savunma Teknolojileri A.Ş.

Koç Information and Defence Technologies Inc. (KBS) has presented solutions for surface targets' detection from the wake of surface targets.

The Acoustic Wake Detector (AWD) developed by KBS can be used to detect the wake of surface targets.

Based on the underwater acoustics projects carried out within KBS,

- Expert knowledge and experience in underwater acoustics,
- Deep knowledge and experience in active sonar signal processing algorithms,
- Sensor, transducer and hydrophone design, development, measurement and testing,
- Ability to design, manufacture and test electronic hardware,
- DSP, FPGA, PIC and etc. embedded software design, coding and testing on hardware,
- Deep knowledge and experience in analog and digital sonar signal processing techniques,



- Mechanical design and production for requirements such as boxing, assembly

designed and developed with competencies, AWD is provided with test equipment, simulation models and carrier platform integration solutions. AWD is developed in accordance with MIL-T-18404 and MIL-STD-810G environmental requirements.

Working Principle

The AWD is used for engagement surface targets of torpedos.

The increasing population of air bubbles due to the motion of the surface target is the main physical explanation of the so called "Wake". Moving surface targets generate a relatively long tracking wake.

The physical constitution of surface target wakes brings into play several processes as thermal structure, turbulent motions or surface and stern waves.

This wake can be detected by the AWD which is integrated in the torpedo.

The AWD makes use of the physical features of the wake in order to detect it or to distinguish it from an undisturbed water surface. The wake generated by a surface target reflects sound so strongly and so persistently that it may provide successful acoustic methods in naval warfare operations for detecting, tracking or identifying the surface target which has produced the wake.

The torpedo scans the target area with this AWD, locates the wake and guides itself automatically to target e.g. by suitable crossing of the wake.

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