

Enhanced RACON

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Enhanced RACON (or e-RACON) is a proposal for introducing unique identification to the Radar response of a RACON, enabling Enhanced RADAR positioning.

This proposal is currently being brought forward to the maritime industry by the Danish Maritime Safety Administration through IALA. The recommendations^[1] and performance requirements^[2] for RACON are under consideration for revision, due to issues of limited ability to trigger RACON responses introduced by New Technology (NT) Radar.

An opportunity for practical testing of the concept in 2011 is being considered in the EfficienSea project^[3], partly financed by the Baltic Sea Region Programme^[4] and coordinated by the Danish Maritime Safety Administration.

Principle

When a traditional RACON receives a radar pulse, it responds with a signal which on a Radar screen takes the form of a short line of dashes and dots forming a Morse character radiating away from the location of the beacon. Typically, the Morse character starts with a dash - a long, continuous signal.

The proposal for Enhanced RACON is to further modulate this first dash, with a small amount of digital information to enable either the unique identification of this particular RACON (for instance 30 bits of data identifying the RACON by a MMSI) or alternatively to identify the position of the RACON.

Introducing a unique identification would enable Enhanced Radar positioning through the ability to correlate the radar response of a RACON with the known position of that RACON. This could either be derived from an associated AIS signal representing the same object with the same identifier, or potentially in the future from information contained in a nautical publication, such as an Electronic navigational chart in the emerging S-100 format.

References

- [1] IALA Recommendation R-101 Maritime Radar Beacons (Racons)
- [2] IMO Resolution MSC.192(79) – Radar Performance Requirements
- [3] EU part-financed project: Efficient, Safe and Sustainable Traffic at Sea (<http://www.EfficienSea.org>)
- [4] eu.baltic.net

External links

IALA website (<http://www.ialathree.org/chapo/index.php/>) Danish Maritime Safety Administration website (<http://www.frv.dk/>) EfficienSea project website (<http://www.EfficienSea.org/>)

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