Title Abstract: VDES developments with a focus on R-Mode

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Abstract:

The VHF Data Exchange System (VDES) offers maritime administrations the potential to protect the existing Automatic Identification System (AIS) from overload, while at the same time, enabling them to provide new, robust and secure e-navigation services. This paper will introduce the current work on VDES, which is wide ranging. It will report on the development of the system through international collaboration, detailing the current status with regards to the international frequency allocations and explore the different areas of work being undertaken to develop VDES R-Mode.

VDES R-Mode is being explored by a number of IALA members, with several possible approaches under consideration. Reporting collectively in this paper, the current work of VDES R-Mode within the R-Mode Baltic Sea project is introduced, explained and future work presented. Progress from studies conducted by the German Aerospace Center (DLR), the National Institute of Telecommunications, Poland (NIT) and the General Lighthouse Authorities of the UK & Ireland (GLA) are provided, covering signal design, performance evaluation and coverage prediction.

Finally, this paper will report on the important work being conducted by the IALA ENG and ENAV Committees to standardise R-Mode, reporting on the outcome of the recent R-Mode Workshop and summarising the important work yet to be completed before this GNSS independent PNT solution can be realised.