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| From: ENG10 | ENG10-14.3.2 |
| To: LAP | 04 October 2019 |

LIAISON NOTE

True Heading patent on a “METHOD FOR DETERMINING THE TIMING OF THE RECEIPT OF A RADIO MESSAGE”

# Introduction

IALA is currently developing a terrestrial positioning system called Ranging Mode (R-Mode) using MF or VHF (i.e. AIS) maritime radio infrastructure [1]. Further developments are also in place to use VDES as a source for ranging signals. The development of R-Mode is an international effort including organizations from Germany, China, Republic of Korea, Canada, UK and others. This collaboration includes international research projects such as ACCSEAS and R-Mode Baltic. Regular updates on R-Mode development and testbeds are provided to IALA Technical Committees.

Since 2016, True Heading, a private company, has contacted IALA and several authorities which are developing R-Mode, claiming that R-Mode via AIS is using principles covered by a patent owned by True Heading granted in Sweden and the US. True Heading is asking for formal agreements, including financial compensation for the purchase of patent rights.

# Position of True Heading

During the IALA workshop on R-Mode held in September 2019 at the IALA Headquarters, the CEO of True Heading communicated that he sees a conflict between R-Mode development and the patent owned by True Heading. However, no technical details were provided by the CEO and it was not possible to obtain any other details about the position of True Heading.

True Heading is currently working to extend its patent to 38 European States. The objection period ends on 13 December 2019. The patent specification is attached to this liaison note as [2].

# Patent analysis

In 2016, a review of the patent was performed by the German Federal Waterway and Shipping Administration (WSV) and was shared with IALA. This review is attached to this note as [3]. The review concluded that the elements of the claim from True Heading refer to methods which were previously published in various technical papers. For example, a paper from Papi et al. published in April 2014 [4] describes a similar approach as it is claimed by True Heading in the patent [2].

Furthermore, it was identified that the True Heading and R-Mode concepts are only similar in the way that AIS transmissions are used to determine time of reception within a receiver.

The view of the ENG committee is that the detailed methods, the application, and the measurement principles are technically different.

The ENG Committee seeks the support, advice and guidance from the LAP on this topic.

# Action requested

LAP is requested to:

* Consider if an objection should be lodged by IALA against the grant of patent in affected EU states;
* Consider if further work on this patent topic should be undertaken in collaboration with the ENG Technical Committee; and
* Provide advice for further steps.

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| [1] | K. Gregory, “Report of the workshop on Ranging Mode,” in IALA Workshop on Ranging-Mode, Saint Germain en Laye, 2019. |
| [2] | N. WILLART, B. JOHANSSON and A. BERGSTRÖM, “METHOD FOR DETERMINING THE TIMING OF THE RECEIPT OF A RADIO MESSAGE”. AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR Patent EP 3 052 956, Date of filing: 26.09.2014. |
| [3] | M. Hoppe, “Comparison of AIS R-Mode as proposed within the ACCSEAS feasibility study with True Heading Patent Application Publication,” 2016. |
| [4] | F. Papi, D. Tarchi, M. Vespe, F. Oliveri, F. Borghese, G. Aulicino and A. Vollero, “Radiolocation and tracking of automatic identification system signals for maritime situational awareness,” IET Radar, Sonar and Navigation, p. 1–13, 2014. |