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Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG **□** PAP X Input

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Agenda item [[2]](#footnote-2) 3.

Technical Domain / Task Number 2 -

Author(s) / Submitter(s) Secretariat and China MSA

Statement on patents relating to VDES

# 1 Summary

Some members of DTEC have expressed concerns regarding the existence of several related Chinese patents, and possible unresolved intellectual property right issues relating to IALA publications.

The Secretariat reached out to China MSA, who facilitated a dialogue with the Maritime Intelligent Communication and Navigation Technology research team at Dalian Maritime University in China who have filed for five VDES related Chinese patents.

The research team clarified that none of their five patents overlap with IALA's publications and offered to issue a declaration allowing IALA and its members to use these five patents free of charge, if needed.

IALA and the China Maritime Safety Administration would like to take this opportunity to call upon all IALA members to have a detailed understanding of the IALA Patent Policy and to react in a timely manner to provide appropriate solutions to possible Intellectual Property Rights issues.

## 2 RELATED DOCUMENTS

IALA Patent Policy and associated procedures

# 3 Discussion

IALA intends to develop Standards, Recommendations, Guidelines, Manuals and other guidance, i.e. “IALA Documents” that are free for use by the public in general and that are accessible to the public.

Therefore, IALA Documents should be kept free of subject matters, which could infringe patents or patent applications unless a free Patent License or a Patent License on reasonable terms is available.

IALA Committees follow the procedures described in the IALA Patent Policy which includes prompting for patent disclosures at IALA Committee meetings.

Committee participants must inform the Chair of their Committee about their own Patents and pending public Patent Applications or Patents and Patents Application of which they have knowledge, which are or may become relevant for the work of IALA.

IALA Committee participants must also inform the Chair of their Committee in a timely manner about any subject matter in IALA Documents that might be Patentable subject matter with the aim that this subject matter be published by IALA to prevent third party’s patenting thereof.

In the event that during the development of IALA documents patentable subject matter is detected, IALA should endeavour to publish this subject matter to eliminate the risk that a third party attempts to patent the subject matter, and thereby hinders the work of the IALA Committees.

In the event that already patented subject matter is detected, IALA should endeavor to approach the patent owner(s) to establish whether a free License can be obtained and on what conditions.

In the current case, the Secretariat reached out to China MSA, who facilitated a dialogue with the Maritime Intelligent Communication and Navigation Technology research team at Dalian Maritime University who have filed for five of Chinese patents. Dr. Shuaiheng Huai from the research team clarified that none of their five patents:

CN116148893A, ZL202111590802.9, ZL201910443871.3, CN117098201A and WO2023109896A1

overlap with IALA's publications and offered to issue a declaration allowing IALA and its members to use the five patents free of charge, if needed.

A list of the five patents can be found in Appendix A.

Further, considering that VDES is about to usher in a large-scale promotion and application, in order to protect the collective rights and interests of VDES practitioners, China MSA would like to take this opportunity to set an example together with the member countries and call upon all IALA members to understand the IALA Patent Policy in detail, and to react in a timely manner by giving positive solutions to the possible IPR issues (not limited to VDES).

# 4 Action requested of the Committee

The Committee is requested to

1. Note the clarification provided by the Maritime Intelligent Communication and Navigation Technology research team at Dalian Maritime University, stating that there is no overlap between their five patents and IALA publications, and that the team is willing to issue a declaration allowing IALA and its members to use their patents free of charge, if needed.
2. Continue identifying potentially patentable or already patented subject matters and act in accordance with the IALA Patent Policy and associated procedures.
3. It is recommended that an initiative be put forward in the DTEC-3 report to call upon all IALA members to have a detailed understanding of the IALA patent policy and to react in a timely manner to give positive solutions to possible IPR issues.

# Appendix A

**Annex I**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Name | Country | Patent number | Date of Authorization/Publication | Inventors | Patent Status | Remarks |
| 1. | Ranging Method and System Based on Real-time Bit Edge Detection and Suitable for VDES R-mode | China | CN116148893A | 2023.05.23 | Shuaiheng Huai, Tianrui Liu, Qing Hu, Yi Jiang | Under examination | Different from the ranging method adopted in G1158 that uses specific sequences for correlation value calculation. |
| 2. | Multi-mode communication method for shipboard terminals integrating VDES, Beidou 3, and 4G/5G networks | China | ZL202111590802.9 | 2023.07.25 | Qing Hu, Yi Jiang, Guowei Yao | Authorized | Only VDES and Beidou 3, 4G/5G are equally used as communication means. |
| 3. | An AIS location information anti-spoofing method based on R-mode | China | ZL201910443871.3 | 2023.04.18 | Yi Jiang, Kai Zheng, Qing Hu | Authorized | The patent's method, means and application scenarios for realizing R-mode based on AIS shore station are completely different from IALA's existing VDES R-mode technology. |
| 4. | A vertical switching method between VDE-TER and VDE-SAT based on UNIS algorithm | China | CN117098201A | 2023.11.21 | Yi Jiang, Cong Wang, Qing Hu | Under examination | The patent is to realize vertical switching between VDE-TER and VDE-SAT using UNIS algorithm to improve the overall throughput of VDE. |
| 5. | An Improved Carrier Frequency Bias Synchronization Method for VDE-TER System | PCT | WO2023109896A1 | 2023.06.22 | Qing Hu, Yuanyuan Hu | Authorized | The relevant documents of IALA only stipulate the requirements of the frequency deviation index, but do not give the specific realization method, and this patent is the specific research results of the realization of this index. |

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)