

Change of the Inmarsat-C satellite constellation permanently leads to VMS and ERS reporting problems

VMS devices of the type TT-3026 need an update!

The satellite provider Inmarsat had renewed its communications satellites in 2018. This had become necessary as the 3rd generation satellites were more than 20 years old. The 4th generation satellites have more capacity and promise higher reliability. Further information can be found here: <https://marlink.com/inmarsatc-i4-migration/>

Due to the relocation of the Inmarsat-C services we use for VMS and ERS to the new I4 satellites, the positions of the satellites have shifted west by about 40 degrees. The preferred AORE satellite, for example, is now over Brazil and no longer off the African coast (54° W instead of 15.5° W). This results in our waters a very low elevation angle and associated poor reliability in use. By contrast, the IOR satellite was moved to a very favorable equatorial position over the Congo (25° E) in mid-December.

The Inm-C units used on German fishing vessels are programmed to prefer the closest satellites and only switch to another satellite if the closest satellite cannot be sufficiently received. This achieves a very good reliability. Unfortunately, older TT-3026 devices continue to opt for the AORE satellite, depending on their position, according to an obsolete table of satellite positions, rather than switching to the favorably positioned IOR. Now we observe that this leads to frequent reporting gaps.

Which devices are affected?

All types of TT-3026 used on German fishing vessels are affected, provided that they were last programmed/tested before December 18th 2018. Not affected are all TT-3027 devices. The antennas are easy to distinguish optically.



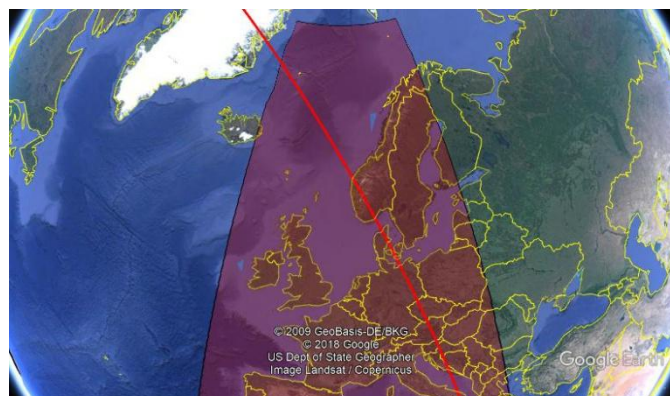
TT-3026 (affected)

TT-3027 (not affected)

Which fishing areas are affected?

The problem exists in all positions closer to the IOR than to the AORE satellite, i.e. in the range of longitudes between 14° W and 24° E.

The biggest problems are to be expected at a low AORE elevation angle, i.e. several 100 nautical miles on both sides of the red marked 5° elevation limit of the AORE.



Affected Area

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Is remedy to be expected from the device manufacturer T&T / Cobham?

The devices of the type TT-3026 are not produced anymore for almost 10 years and for 5 years no longer supported by the manufacturer. The manufacturer answers no more questions about the device, does no more repairs and a bug-fixed firmware is not expected.

How can the problems be solved for the fishery?

There are currently more than 200 TT-3026 units on German fishing vessels. Many of these devices are now 15 years old. The exact age can be determined by the serial number or queried at iks.

The devices are characterized by their particular robustness. The failure statistics now show a mean life expectancy of more than 25 years. The problems caused by the satellite shift can be solved by device replacement, i.e. by replacing it with a new type TT-3027M with TCU. The antenna cable and the below deck unit (InfoBox) must also be replaced. An exchange should be considered if the device is already very old or shows other weaknesses.

The problem can also be eliminated by reprogramming to a modified satellite selection logic. If necessary, the firmware has to be exchanged if it is older than version 2.26. Programming, firmware renewal and testing can usually be carried out remotely with www.iks-hh.de/support/iks-fernwartung.exe without dismounting the system.

What will be the costs for the fishing vessel?

Replacing the device generates costs for hardware, programming and testing and installation on board. Whether funding from public funds is possible can be obtained from the competent fisheries authority. The costs are likely to be in the range of € 2,500 to over € 3,000. iks will gladly assist you in your search for a suitable hardware supplier.

A reprogramming of the existing TT-3026 devices including testing and issuing the test certificate is offered by iks for 195 EUR. If also a firmware update is required, the costs amount to 255 EUR.

Must action be taken immediately or can the problem be deferred?

This question cannot be answered in general because the problems depend on the condition of the equipment and the area of the catch operations. You can query at iks or the BLE, how strongly your device is affected. Immediate action should be taken if BLE complains about any reporting gaps or if there are problems sending logbooks via Inm-C.

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