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## data availability at IMS Hydroacoustic hydrophone stations by improving on-shore digital data handling equipment

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The IMS hydroacoustic (HA) network monitors continuously the world's oceans with only six hydrophone stations (11 triplets). The acoustic signals acquired by the hydrophones are digitized underwater and transmitted via fibre-optic cable to an on-shore Digital Data Formatting Interface (DDFI). The DDFI builds data packets and sends these to the Commission's Standard Station Interface (SSI), where CD1.1 data frames are formed and forwarded to Vienna via satellite. Loss of data from even a single triplet has a high impact on the network's overall coverage and is often associated with the following root causes: SSI malfunction, local DDFI-SSI network or satellite transmission issues. An engineering effort was undertaken to mitigate the impact of such data-loss scenarios by adding to the DDFI a local disk buffer storing hydrophone and diagnostic data. This buffer is accessible through newly developed SSI functionalities, which allow backfilling of user-specified data segments and retrieval of diagnostic data logs by remote user request. The enhanced backfilling makes it possible to recover from the above described data-loss situations, whereas remote retrieval of DDFI diagnostic data leads to more efficient station troubleshooting. Rollout of these new capabilities to HA01, HA03 and HA04 is being planned for the period 2021-2022.

### Promotional text

Newly developed shore equipment features make it possible to reduce data loss and improve the remote troubleshooting of IMS Hydroacoustic hydrophone stations. Roll-out to HA01, HA03 and HA04 is being planned.

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