EARS : Repositioning data management near data acquisition

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The EU FP7 Projects Eurofleets and Eurofleets2 are a European wide alliance of marine research centers that aim to share their research vessels, to improve information sharing on planned, current and completed cruises, on details of ocean-going research vessels and specialized equipment, and to durably improve cost-effectiveness of cruises.

Within this context logging of information on how, when and where anything happens on board of the vessel is crucial information for data users in a later stage. This forms a primordial step in the process of data quality control as it could assist in the understanding of anomalies and unexpected trends recorded in the acquired datasets.

In this way the completeness of the metadata is improved as it is recorded accurately at the origin of the measurement. In the past, the collection of this crucial information was done in very different ways, using different procedures, formats and pieces of software in the context of the European Research Fleet. At the time that the Eurofleets project started, every institution and country had adopted different strategies and approaches, which complicated the task of users that need to log general purpose information and events on-board whenever they access a different platform losing the opportunity to produce this valuable metadata on-board.

Among the many goals the Eurofleets project has, a very important task is the development of an "event log software" called EARS (Eurofleets Automatic Reporting System) that enables scientists and operators to record what happens during a survey. EARS will allow users to fill, in a standardized way, the gap existing at the moment in metadata description that only very seldom links data with its history.

Events generated automatically by acquisition instruments will also be handled, enhancing the granularity and precision of the event annotation. The adoption of a common procedure to log survey events and a common terminology to describe them is crucial to provide a friendly and successfully metadata on-board creation procedure for the whole the European Fleet. The possibility of automatically reporting metadata and general purpose data, will simplify the work of scientists and data managers with regards to data transmission.

An improved accuracy and completeness of metadata is expected when events are recorded near acquisition time. This will also enhance multiple usages of the data as it allows verification of the different requirements existing in different disciplines.