



Rock and Core Repository Coming Digital

Doris Maicher (1), Dirk Fleischer (2), and Andreas Czerniak (1)

(1) GEOMAR, Kiel, Germany (dmaicher@geomar.de), (2) Kiel Marine Science, University of Kiel, Kiel, Germany (dfleischer@kms.uni-kiel.de)

In times of whole city centres being available by a mouse click in 3D to virtually walk through, reality sometimes becomes neglected. The reality of scientific sample collections not being digitised to the essence of molecules, isotopes and electrons becomes unbelievable to the upgrowing generation of scientists.

Just like any other geological institute the Helmholtz Centre for Ocean Research GEOMAR accumulated thousands of specimen. The samples, collected mainly during marine expeditions, date back as far as 1964. Today GEOMAR houses a central geological sample collection of at least 17 000 m of sediment core and more than 4 500 boxes with hard rock samples and refined sample specimen. This repository, having been dormant, missed the onset of the interconnected digital age. Physical samples without barcodes, QR codes or RFID tags need to be migrated and reconnected, urgently.

In our use case, GEOMAR opted for the International Geo Sample Number IGSN as the persistent identifier. Consequentially, the software CurationDIS by smartcube GmbH as the central component of this project was selected. The software is designed to handle acquisition and administration of sample material and sample archiving in storage places. In addition, the software allows direct embedding of IGSN. We plan to adopt IGSN as a future asset, while for the initial inventory taking of our sample material, simple but unique QR codes act as “bridging identifiers” during the process.

Currently we compile an overview of the broad variety of sample types and their associated data. QR-coding of the boxes of rock samples and sediment cores is near completion, delineating their location in the repository and linking a particular sample to any information available about the object. Planning is in progress to streamline the flow from receiving new samples to their curation to sharing samples and information publically. Additionally, interface planning for linkage to GEOMAR databases OceanRep (publications) and OSIS (expeditions) as well as for external data retrieval are in the pipeline.

Looking ahead to implement IGSN, taking on board lessons learned from earlier generations, it will enable to comply with our institute’s open science policy. Also it will allow to register newly collected samples already during ship expeditions. They thus receive their “birth certificate” contemporarily in this ever faster revolving scientific world.