The mobile Drilling Information System (mDIS) for core repositories

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The Drilling Information System (DIS) is a data entry system for field data, laboratory data and sampling data. The International Continental Scientific Drilling Program (ICDP) provides the system to facilitate data management of drilling projects during field work and afterwards. Previously, a legacy DIS client-server application was developed in 1998, and has been refined over the years. The most recent version was released in 2010. However, legacy DIS was locked-in to very specific versions of the Windows- and Office platforms that are non-free, and, more importantly, are no longer supported by Microsoft.

Therefore we have developed a new version of the DIS called the mobile DIS, or mDIS. It is entirely based on open-source components and is platform-independent. We have introduced a basic (beta) version of mDIS at EGU 2019. That version was designed for fieldwork. At EGU 2020 we present an extended version designed for core repositories.

The basic or expedition mDIS manages basic datasets gained during the field work of a drilling project. These datasets comprise initial measurements of the recovered rock samples, such as core logs, special on-site sample requests, and drilling engineering data. It supports label-printing including QR codes, and the automatic assignment of unique International Geo Sample Numbers (IGSN). The data are available online for all project scientists on site as well as offsite.

The curation mDIS, however, satisfies additional requirements of core repositories, which store drill cores for the long term. Additional challenges for the mDIS that occur during long-term sample curation include: (a) the import of large datasets from the expedition mDIS, (b) complex inventory management requirements for physical storage locations, such as shelves, racks, or even buildings, used by the repositories, (c) mass printing of custom labels and custom reports, (d) managing researchers’ sample requests, sample curation and sample distribution, (e) providing access to science data according to FAIR principles.