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Making your samples FAIR –tools and recommendations from the FAIR WISH Project

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FAIR WISH - FAIR Workflows to establish IGSN for Samples in the Helmholtz Association is an HMC funded project of the first cohort 2020. IGSN, the International Generic Sample Number, is a globally unique, citable and persistent identifier (PID) for physical samples with discovery functionality in the internet. IGSNs enable direct links between data, publications and the originating samples and thus close one of the last gaps in the full provenance of research results.

The main outcome of FAIR WISH is the FAIR SAMPLES Template. This modular template, developed for the Earth and Environmental domain, allows users, i.e. individual researchers, to select metadata properties based on their sample type and create customised sample descriptions. It includes a number of linked-data vocabularies for enriching the descriptions in a standardised form and is the basis of the semi-automated XML generation of the IGSN metadata XMLs. These XMLs are used for batch upload to the IGSN/ DataCite server for IGSN registration, and the source for IGSN landing pages. During the project, we collected and registered rich IGSN metadata for more than 14.000 samples using the FAIR SAMPLES Template. These samples represent the large variety in sample types and sub-disciplines across the three project partners GFZ, AWI and Hereon and all states of digitisation.

The development of the FAIR SAMPLES Template is an important step for the further standardisation and harmonisation of sample metadata and includes a number of linked-data vocabularies for different geo-bio sample types in terrestrial and marine environments. It is specifically designed for individual users with hierarchical samples, but can also be used for the generation of IGSN metadata from digital sample management systems, like the marine Expedition database at Hereon.

Further project results are the full documentation of the IGSN metadata schema and a list of linked-data vocabularies (SKOS/RDF) that are recommended to be included in the IGSN metadata enabling further standardisation. Since 2023, IGSNs are registered as DataCite DOIs which required an initial mapping of IGSN metadata to the DataCite Schema.

Please assign your contribution to one of the following topics

Please specify "other" (stakeholder)

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Please assign yourself (presenting author) to one of the stakeholders.

Scientists and technicians who maintain and operate research infrastructure for data generation

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