ENVRI Glossary

This glossary will be updated regularly and the DOI versioned respectively.

The development area of the glossary and with it the most recent version can be found here: https://iagos-comm.iek.fz-juelich.de/projects/envri-fair-wiki/wiki.

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ENVRI Glossary

Project acronyms

AC	Active Collab (ENVRIplus Project Management System)
BEERi	Board of European Environmental Research Infrastructures - is an internal advisory board representing the needs of environmental Research Infrastructures
CA	Consortium Agreement - Legal contract between the ENVRIplus beneficiaries
DL	Deliverable / Deadline
DoW	Description of Work
DoA	Description of Action
GA	1) Grant Agreement - Contract between Coordinator and Commission; 2) General Assembly - GA is the ultimate decision-making body of the consortium
EB	Executive Board - supervisory body for the execution of the Project
EC	European Commission - the executive body of the European Union responsible for proposing legislation, implementing decisions, upholding the EU treaties and managing the day-to-day business of the EU
ENV SWG ESFRI	The European Strategy Forum on Research Infrastructures - Strategic Working Group on Environment
ESFRI	European Strategy Forum on Research Infrastructures
PM	Person Month
RI	Research Infrastructure
WP	Work Package

Organisational Acronyms

ACTRIS	Aerosols, Clouds, and Trace gases Research InfraStructure network
AQUACOSM	EU network of mesocosms facilities for research on marine and freshwater ecosystems open for global collaboration
BEERI	Board of European Environmental Infrastructures
CEA	Commissariat a l Energie Atomique et aux Energies Alternatives
CINECA	Consorzio Interuniversitario CNR: Consiglio Nazionale Delle Richerche
CNRS	Centre National de la Recherche Scientifique
CODATA	Committee on data for Science and Technology

ConnectinGEO	Coordinating an Observation Network of Networks EnCompassing saTellite and IN-situ to fill the Gaps in European Observations
COOPEUS	Strengthening the cooperation between the US and the EU in the field of environmental research infrastructures
COPERNICUS	Previously known as GMES (Global Monitoring for Environment and Security), is the European Programme for the establishment of a European capacity for Earth Observation
CSC	CSC - IT Center for Science
CU	Cardiff University
D4Science	An organisation offering a Hybrid Data Infrastructure service and a number of Virtual Research Environments
DANUBIUS	The international center for Adavanced studies on river-sea systems
DASSH	Data archive for seabed species (a UK marine biology resource centre)
DIRAC	Distributed Infrastructure with Remote Agent Control
DiSSCo	Distributed Systems of Scientific Collections
DKRZ	Deutsches Klimarechenzentrum GmBH
EAA	Umweltbundesamt GmbH - Environment Agency Austria
EduGAIN	An international interfederation service interconnecting research and education identity federations
EEA	European Environment Agency
EGI	European Grid Infrastructure
EGLEU	
EINFRA-1-2014	H2020 Call for e-infrastructures (Managing, preserving and computing with big research data)
EISCAT	EISCAT Scientific Association
EMBL	European Molecular Biology Laboratory
EMBRC	European Marine Biological Resource Centre a consortium of research organisations interested in marine biology
EMODNET	The European Marine Observation and Data Network
EMRP	European Metrology Research Programme
EMSC	Euro-Mediterranean Seismological Centre
EMSO	European Multidisciplinary Seafloor and Water Column Observatory
ENVRI	FP7 project on Implementation of common solutions for a cluster of ESFRI infrastructures in the field of environmental Sciences
EPOS	The European Plate Observing System
EUDAT	H2020 project on Research Data Services, Expertise & Technology Solutions (previously funded by FP7)

EUFAR	European Facility for Airborne Research
EUROCHAMP2020	European atmospheric simulation chambers
EURO-ARGO	European ARGO programme (ARGO are a type of marine survey device)
EUROFLEETS	New operational steps towards an alliance of European research fleets
EUROGOOS	European Global Ocean Survey System
EuroSITES	European Ocean Observatory Network
ERIS	Environmental Research Infrastructure Strategy 2030
ESONET Vi	European Seafloor Observatory NETwork
ETHZ	Eidgenoessische Technische Hochschule Zurich
ESFRI	European Strategy Forum on Research Infrastructures
FIM4R	Federated Identity Management for Research collaborations
FMI	Ilmatieteen Laitos (Finnish Meteorological Institute)
FZJ	Forschungszentrum Juelich GmbH
FixO3	Fix point open ocean observatories (survey programme)
GBIF	Global Biodiversity Information Facility
gCube	An open-source software toolkit used for building and operating Hybrid Data Infrastructures enabling the dynamic deployment of Virtual Research Environments by favouring the realisation of reuse oriented policies
GEO	The Group on Earth Observations coordinates international efforts to build a Global Earth Observation System of Systems (GEOSS)
GEOMAR	Helmholtz Zentrum Für Ozeanforschung Kiel
GEOSS	Global Earth Observation System of Systems coordinated by GEO (The Group on Earth Observations)
GROOM	Gliders for research ocean observation and management
H2020	Horizon 2020, European level research funding scheme
HELIX Nebula	Partnership between big science and big business in Europe that is charting the course towards the sustainable provision of cloud computing - the Science Cloud
IAGOS	In-service Aircraft for a Global Observing System
ICOS	Integrated Carbon Observation System
ICSU	The International Council for Science
INFREMER	Institute Francais de Recherche Pour l'Exploitation de la Mer
INGV	Instituto Nazionale di Geofisica e Vulcanologia
INSPIRE	Integrated Sustainable Pan-European Infrastructure for Researchers in Europe
INRA	Institut National de la Recherche Agronomique

IS-ENES	RI for the European Network for Earth System Modelling
INTERACT	International Network for Terrestrial Research and Monitoring in the Arctic
IPBES	Intergovernmental Platform on Biodiversity & Ecosystem Services
I3	Integrated Infrastructures Initiative (I3) combines several activities essential to reinforce research infrastructures and to provide an integrated service at the European level
JERICO	Towards a joint European research infrastructure network for coastal observatories
LifeWatch	European e-Science infrastructure for biodiversity and ecosystem research
LU	Lund University
LTER	The Long-term Ecological Research Network
LTER-EUROPE	European Long-term Ecosystem Research network of 21 national LTER networks
MBA	Marine Biological Association of the United Kingdom
NERC	Natural Environment Research Council
NILU	Norsk Institutt for Luftforskning (Norwegian Institute of Air Research)
NMI	National Metrological Institutes
PANGAEA	Data Publisher for Earth & Environmental Science (Open Access library aimed at archiving, publishing and distributing georeferenced data from earth system research)
PLOCAN	Consorcio Para el Diseno, Construccion, Equipamiento y Explotacion de la Plataforma Oceanica de Canarias
RCN	Norges Forskningsrad (Research Council of Norway)
RDA	Research Data Alliance
RI	Research Infrastructures – facilities, resources and related services used by the scientific community to conduct top-level research in their respective fields, ranging from social sciences to astronomy, genomics to nanotechnologies.
SCAPE	SCAlable Preservation Environments (FP7 project)
SeaDataNet	Pan-European infrastructure for ocean & marine data management
SIOS	Svalbard Integrated Arctic Earth Observing System
SME	Small and medium-sized enterprises
UCPH	Kobenhavns Universitet (Copenhagen University)
UEDIN	University of Edinburgh
UGOT	Goeteborgs Universitet (University of Gothenburg)
UHEL	Helsingin Yliopisto (University of Helsinki)
UiT	Universitetet i Tromsoe (University of Tromso)

UniHB	Universitaet Bremen (University of Bremen)
UNILE	Universita del Salento (University of Salento)
UNITUS	Universita Degli Studi della Tuscia
USTAN	The University Court of the University of St. Andrews (University of St Andrews)
UvA	Universiteit van Amsterdam (University of Amsterdam)

Important Technical Terms/Acronyms
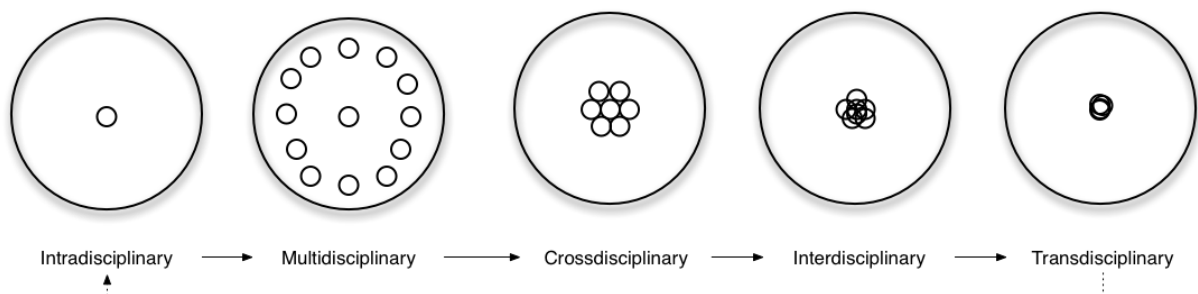
API	Application Program Interface, is a set of routines, protocols, and tools for building software applications
Biodiversity	The variety of different types of life found on earth
Biodiversity metrics	Measurements of the number of species and how they are distributed
CERIF	Common European Research Information Format
CIARD RING	A global directory of information services and datasets in agriculture
Data stream	A sequence of digitally encoded coherent signals used to transmit or receive information that is in the process of being transmitted
Data pipeline	In computing, a pipeline is a set of data processing elements connected in series, where the output of one element is the input of the next one.
DCAT	A resource description format vocabulary designed to facilitate interoperability between data catalogues
DOI	Digital Object Identifier
e-infrastructure	Networked tools, data and resources that support a community of researchers, broadly including all those who participate in and benefit from research
HPC	High Performance Computing
HTC	High Throughput Computing
IoT	The Internet of Things - is a scenario in which objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.
ICT	Information and Communications technology
INFRADEV-4	Subcall of H2020 INFRADEV call for Implementation and operation of cross-cutting services and solutions for clusters of ESFRI and other relevant research infrastructure initiatives
IPR	Intellectual Property Rights
KOS	Knowledge Organization Systems - is a generic term used in Knowledge organization about authority lists, classification systems, thesauri, topic maps, ontologies etc.

LOD	Linked open data is linked data that is open content
LOV	Linked Open Vocabularies
Metadata	Data that describes other data. Metadata summarizes basic information about data, which can make finding and working with particular instances of data easier
NGI	National Grid Initiative
NREN	National Research and Education Network
NRT	Near Real Time - refers to the time delay introduced, by automated data processing or network transmission, between the occurrence of an event and the use of the processed data (For example, a near-real-time display depicts an event or situation as it existed at the current time minus the processing time, as nearly the time of the live event)
OASIS	Advancing Open Standards for the Information Society (non-profit consortium)
ODP	Open Distributed Processing
OIL-E	The Open Information Linking model for Environmental science - is a semantic linking framework
Ontology	(In computer science and information science) an ontology is a formal naming and definition of the types, properties, and interrelationships of the entities that really or fundamentally exist for a particular domain of discourse
QoE	Quality of user experience
Over dispersion	A statistical characteristic of data such that the data have more clusters than compared to what might be expected if the data were distributed randomly in proportion to the time/space available.
NetCDF	A file format
OceanSITES	A worldwide system of long-term, open-ocean reference stations measuring dozens of variables and monitoring the full depth of the ocean from air-sea interactions down to the seafloor
OOI	Ocean Observatories Initiative
RDA	Resource Description and Access, a standard for descriptive cataloguing
RM	Reference Model - is an abstract framework or domain-specific ontology consisting of an interlinked set of clearly defined concepts produced by an expert or body of experts in order to encourage clear communication
SensorML	The primary focus of the Sensor Model Language is to provide a robust and semantically-tied means of defining processes and processing components associated with the measurement and post-measurement transformation of observations
Semantics	The study of meaning
Syntax	In computer science, the syntax of a computer language is the set of rules that defines the combinations of symbols that are considered to be a

correctly structured document or fragment in that language

SLA   Service Level Agreement

UV   Unmanned vehicles

VCP   (ENVRI) Virtual Community Platform

VL   Virtual Laboratory

VRE   Virtual Research Environments, web based package tailored to a specific community

Definitions

Intradisciplinary   Working within a single discipline

Crossdisciplinary   Viewing one discipline from the perspective of another

Multidisciplinary   People from different disciplines working together, each drawing on their disciplinary knowledge

Interdisciplinary   Integrating knowledge and methods from different disciplines, using a real synthesis of approaches

Transdisciplinary   Creating a unity of intellectual frameworks beyond the disciplinary perspectives

Intradisciplinary → Multidisciplinary → Crossdisciplinary → Interdisciplinary → Transdisciplinary

ENVRI Reference Model Glossary

Acronyms and Abbreviations

CCSDS	Consultative Committee for Space Data Systems
CMIS	Content Management Interoperability Services
CERIF	Common European Research Information Format
DDS	Data Distribution Service for Real-Time Systems
ENVRI	Environmental Research Infrastructure
ENVRI_RM	ENVRI Reference Model
ESFRI	European Strategy Forum on Research Infrastructures
ESFRI-ENV RI	ESFRI Environmental Research Infrastructure
GIS	Geographic Information System
IEC	International Electrotechnical Commission
ISO	International Organisation for Standardization
OAIS	Open Archival Information System
OASIS	Organization for the Advancement of Structured Information Standards
ODP	Open Distributed Processing
OGCO	pen Geospatial Consortium
OMG	Object Management Group
ORCHESTRA	Open Architecture and Spatial Data Infrastructure for Risk Management
ORMOGC	Reference Model
OSI	Open Systems Interconnection
OWL	Web Ontology language
SOA	Service Oriented Architecture
SOA-RM	Reference Model for Service Oriented Architecture
RDF	Resource Description Framework
RM-OA	Reference Model for the ORCHESTRA Architecture
RM-ODP	Reference Model of Open Distributed Processing
UML	Unified Modelling Language
W3C	World Wide Web Consortium
UML4ODP	Unified Modelling Language For Open Distributed Processing

Terminology

Access Control	A functionality that approves or disapproves of access requests based on specified access policies.
Acquisition Service	Oversight service for integrated data acquisition.
Active role	An active role is typically associated with a human actor.
Add Metadata	Add additional information according to a predefined schema (metadata schema). This partially overlaps with data annotations.
Annotate Data	Annotate data with meaning (concepts of predefined local or global conceptual models).
Annotate Metadata	Link metadata with meaning (concepts of predefined local or global conceptual models). This can be done by adding a pointer to concepts within a conceptual model to the data. If e.g. concepts are terms in and SKOS/RDF thesaurus, published as linked data then this would mean entering the URL of the term describing the meaning of the data.
Annotation	(verb) The action of annotating or making notes. (noun) A note added to anything written, by way of explanation or comment.
Annotation Service	Oversight service for adding and updating records attached to curated datasets.
Assign Unique Identifier	Obtain a unique identifier and associate it to the data.
Authentication	A functionality that verifies a credential of a user.
Authentication Service	Security service responsible for the authentication of external agents making requests of infrastructure services.
Authorisation	A functionality that specifies access rights to resources.
Authorisation Service	Security service responsible for the authorisation of all requests made of infrastructure services by external agents.
Backup	A copy of (persistent) data so it may be used to restore the original after a data loss event.
Behaviour	A behaviour of a community is a composition of actions performed by roles normally addressing separate business requirements.
Build Conceptual Models	Establish a local or global model of interrelated concepts.
Capacity Manager	An active role, which is a person who manage and ensure that the IT capacity meets current and future business requirements in a cost-effective manner.
Carry out Backup	Replicate data to an additional data storage so it may be used to restore the original after a data loss event. A special type of backup is a long term preservation.
Catalogue service	Oversight service for cataloguing curated datasets.
Check Quality	Actions to verify the quality of data.

Citation	from the ENVRI RM perspective, citation is defined as a pointer from a publication to:
	- data source(s)
	- and/or the owner(s) of the data source(s)
	- a description of the evaluation process, if available
	- a timestamp marking the access time to the data sources, thus reflecting a certain version
Citizen (synonyms: General Public, Media)	An active role, a person, who is interested in understanding the knowledge delivered by an environmental science research infrastructure, or discovering and exploring
Citizen Scientist	An active role, member of the general public who engages in scientific work, often in collaboration with or under the direction of professional scientists and scientific institutions (also known as amateur scientist).
Community	A collaboration which consists of a set of roles agreeing their objective to achieve a stated business purpose.
Concept	Name and definition of the meaning of a thing (abstract or real thing). Human readable definition by sentences, machine readable definition by relations to other concepts (machine readable sentences). It can also be meant for the smallest entity of a conceptual model. It can be part of a flat list of concepts, a hierarchical list of concepts, a hierarchical thesaurus or an ontology.
Conceptual Model	A collection of concepts, their attributes and their relations. It can be unstructured or structured (e.g. glossary, thesaurus, ontology). Usually the description of a concept and/or a relation defines the concept in a human readable form. Concepts within ontologies and their relations can be seen as machine readable sentences. Those sentences can be used to establish a self-description. It is, however, practice today, to have both, the human readable description and the machine readable description. In this sense a conceptual model can also be seen as a collection of human and machine readable sentences. Conceptual models can reside within the persistence layer of a data provider or a community or outside. Conceptual models can be fused with the data (e.g. within a network of triple stores) or kept separately.
Coordination Service	An oversight service for data processing tasks deployed on infrastructure execution resources.
Data Acquisition Community	A community, which collects raw data and bring (streams of) measures into a system.
Data Acquisition Subsystem	A subsystem that collects raw data and brings the measures or data streams into a computational system.
Data Analysis	A functionality that inspects, cleans, transforms data, and provides data models with the goal of highlighting useful information, suggesting conclusions, and supporting decision making.
Data Assimilation	A functionality that combines observational data with output from a

numerical model to produce an optimal estimate of the evolving state of the system.

Data Broker	Broker for facilitating data access/upload requests.
Data Cataloguing	A functionality that associates a data object with one or more metadata objects which contain data descriptions.
Data Citation	A functionality that assigns an accurate, consistent and standardised reference to a data object, which can be cited in scientific publications.
Data Collection	A behaviour performed by a Data Collector that control and monitor the collection of the digital values from a sensor instrument or a human sensor, such as a Measurer or a Observer, associating consistent time-stamps and necessary metadata.
Data Collector	Active or passive role, adopted by a person or an instrument collecting data.
Data Consumer	Either an active or passive role, which is an entity who receives and use the data.
Data Curation Community	A community, which curates the scientific data, maintains and archives them, and produces various data products with metadata.
Data Curation Subsystem	A subsystem that facilitates quality control and preservation of scientific data.
Data Curator	An active role, which is a person who verifies the quality of the data, preserve and maintain the data as a resource, and prepares various required data products.
Data Discovery & Access	A functionality that retrieves requested data from a data resource by using suitable search technology.
Data Exporter	Binding object for exporting curated datasets.
Data Extraction	A functionality that retrieves data out of (unstructured) data sources, including web pages, emails, documents, PDFs, scanned text, mainframe reports, and spool files.
Data Identification	A functionality that assigns (global) unique identifiers to data contents.
Data Importer	An Oversight service for the import of new data into the data curation subsystem.
Data infrastructure	A collection of data assets, organisations that operate and maintain them and guides describing how to use and manage the data. A data infrastructure is sustainably funded and has oversight that provides direction to maximise data use and value by meeting the needs of society. Data infrastructure includes technology, processes and organisation.
Data management	A process development and execution of architectures, policies, practices and procedures in order to manage the data lifecycle needs of a specific research community.
Data management plan (DMP)	A formal document that outlines how data are to be handled both during a research project and after the project is completed.
Data Mining	A functionality that supports the discovery of patterns in large data sets.

Data Originator	Either an active or a passive role, which provide the digital material to be made available for public access.
Data Processing Control	A functionality that initiates the calculation and manages the outputs to be returned to the client.
Data Processing Subsystem	A subsystem that aggregates the data from various resources and provides computational capabilities and capacities for conducting data analysis and scientific experiments.
Data Product Generation	A functionality that processes data against requirement specifications and standardised formats and descriptions.
Data Provenance	Information that traces the origins of data and records all state changes of data during their lifecycle and their movements between storages.
Data Provider	Either an active or a passive role, which is an entity providing the data to be used.
Data Publication	A functionality that provides clean, well-annotated, anonymity-preserving datasets in a suitable format, and by following specified data-publication and sharing policies to make the datasets publically accessible or to those who agree to certain conditions of use, and to individuals who meet certain professional criteria.
Data Publication Community	A community that assists the data publication, discovery and access.
(Data Publication) Repository	A passive role, which is a facility for the deposition of published data.
Data Publishing Subsystem	A subsystem that enables discovery and retrieval of data housed in data resources.
Data Quality Checking	A functionality that detects and corrects (or removes) corrupt, inconsistent or inaccurate records from data sets.
Data Service Provision Community	A community that provides various services, applications and software/tools to link, and recombine data and information in order to derive knowledge.
Data State	Term used as defined in ISO/IEC 10746-2. At a given instant in time, data state is the condition of an object that determines the set of all sequences of actions (or traces) in which the object can participate.
Data Storage & Preservation	A functionality that deposits (over long-term) the data and metadata or other supplementary data and methods according to specified policies, and makes them accessible on request.
Data Store Controller	A data store within the data curation subsystem.
Data Transfer Service	Oversight service for the transfer of data into and out of the data curation subsystem.
Data Transmission	A functionality that transfers data over communication channel using specified network protocols.
Data Transporter	Generic binding object for data transfer interactions.
Data Use Community	A community who makes use of the data and service products, and transfers

the knowledge into understanding.

Data Use Subsystem	A subsystem that provides functionalities to manage, control, and track users' activities and supports users to conduct their roles in the community.
Describe Service	Describe the accessibility of a service or process, which is available for reuse, the interfaces, the description of behaviour and/or implemented algorithms.
Design of Measurement Model	A behaviour that designs the measurement or monitoring model based on scientific requirements.
Do Data Mining	Execute a sequence of metadata / data request --> interpret result --> do a new request
e-Infrastructure	a combination and interworking of digitally-based technology (hardware and software), resources (data, services, digital libraries), communications (protocols, access rights and networks), and the people and organisational structures needed to support modern, internationally leading collaborative research be it in the arts and humanities or the sciences.
Educator(synonym: Trainer)	An active role, which is a person who makes use of the data and application services for education and training purposes.
Engineer (synonym: Technologist)	An active role, which is a person who develops and maintains the research infrastructure.
Environmental Scientist	An active role, which is a person who conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.
ENVRI Reference Model	A common ontological framework and standards for the description and characterisation of computational and storage systems of ESFRI environmental research infrastructures.
Experiment Laboratory	Community proxy for conducting experiments within a research infrastructure.
Field Laboratory	Community proxy for interacting with data acquisition instruments.
Final review	Review the data to be published, which will not likely be changed again.
Free text annotation	To add a short explanation or opinion to a text or drawing (equivalent to the dictionary definition of annotation).
Instrument Controller	An integrated raw data source.
Knowledge Base	(1) A store of information or data that is available to draw on. (2) The underlying set of facts, assumptions, and rules which a computer system has available to solve a problem.
Knowledge infrastructure	Robust networks of people, artefacts, and institutions that generate, share, and maintain specific knowledge about the human and natural worlds.
Mapping Rule	Configuration directives used for model-to-model transformation.

(Measurement Model) Designer	An active role, which is a person who design the measurements and monitoring models based on the requirements of environmental scientists.
Measurement result	Quantitative determinations of magnitude, dimension and uncertainty to the outputs of observation instruments, sensors (including human observers) and sensor networks.
Measurer	An active role, which is a person who determines the ratio of a physical quantity, such as a length, time, temperature etc., to a unit of measurement, such as the meter, second or degree Celsius.
Metadata	Data about data, in scientific applications is used to describe, explain, locate, or make it easier to retrieve, use, or manage an information resource.
Metadata Catalogue	A collection of metadata, usually established to make the metadata available to a community. A metadata catalogue has an access service.
Metadata Harvesting (Publishing Community Role)	A behaviour performed by a metadata harvester to gather metadata from data objects in order to construct catalogues of the available information. A functionality that (regularly) collects metadata (in agreed formats) from different sources.
Metadata Harvester (Publishing Community Role)	A passive role performed by a system or service collecting metadata to support the construction/selection of a global conceptual model and the production of mapping rules.
Metadata State	- raw: are established metadata, which are not yet registered. In general, they are not shareable in this status
	- registered: are metadata which are inserted into a metadata catalogue.
	- published: are metadata made available to the public, the outside world. Within some metadata catalogues registered.
Passive Role	A passive role is typically associated with a non-human actor.
Perform Mapping	Execute transformation rules for values (mapping from one unit to another unit) or translation rules for concepts (translating the meaning from one conceptual model to another conceptual model, e.g. translating code lists).
Persistent Data	Term (data) used as defined in ISO/IEC 10746-2. Data is the representations of information dealt by information systems and users thereof. Data which are persistent (stored).
Perform Measurement or Observation	Measure parameter(s) or observe an event. The performance of a measurement or observation produces measurement results.
PID Generator	A passive role, a system which assigns persist global unique identifiers to a (set of) digital object.
PID Registry	A passive role, which is an information system for registering PIDs.
PID Service	External service for persistent identifier assignment and resolution.
Policy Maker (synonym: Decision Maker)	An active role, a person, who makes decisions based on the data evidences.
Process Control	A functionality that receives input status, applies a set of logic statements or

control algorithms, and generates a set of analogue / digital outputs to change the logic states of devices.

Process Controller	Part of the execution platform provided by the data processing subsystem.
Process Data	Process data for the purposes of:
	converting and generating data products
	calculations: e.g., statistical processes, simulation models
	visualisation: e.g., alpha-numerically, graphically, geographically
	Data processes should be recorded as provenance.
Provenance	The pathway of data generation from raw data to the actual state of data.
Publish Data	Make data public accessible.
Publish Metadata	Make the registered metadata available to the public.
QA Notation	Notation of the result of a Quality Assessment. This notation can be a nominal value out of a classification system up to a comprehensive (machine readable) description of the whole QA process.
Quality Assessment (QA)	Assessment of details of the data generation, including the check of the plausibility of the data. Usually the quality assessment is done by predefined checks on data and their generation process.
Query Data	Send a request to a data store to retrieve required data.
Query Metadata	Send a request to metadata resources to retrieve metadata of interests.
Observer	An active role, which is a person who receives knowledge of the outside world through the senses, or records data using scientific instruments.
Raw Data Collector	Binding object for raw data collection.
Reference Mode	A reference mode is an abstract framework for understanding significant relationships among the entities of some environment.
Register Metadata	Enter the metadata into a metadata catalogue.
Research Infrastructure	Means facilities, resources and related services that are used by the scientific community to conduct top-level research in their respective fields and covers major scientific equipment or sets of instruments; knowledge-based resources such as collections, archives or structures for scientific information; enabling Information and Communications Technology-based infrastructures such as Grid, computing, software and communication, or any other entity of a unique nature essential to achieve excellence in research. Such infrastructures may be "single-sited" or "distributed" (an organised network of resources)
Resource Registration	A functionality that creates an entry in a resource registry and inserts resource object or a reference to a resource object in specified representations and semantics.
Role	A role in a community is a prescribing behaviour that can be performed any number of times concurrently or successively.

Science Gateway	Community portal for interacting with an infrastructure.
Scientific Modelling and Simulation	A functionality that supports the generation of abstract, conceptual, graphical or mathematical models, and to run an instance of the model.
Scientist (synonym: Researcher)	An active role, which is a person who makes use of the data and application services to conduct scientific research.
(Scientific) Workflow Enactment	A specialisation of Workflow Enactment, which support of composition and execution a series of computational or data manipulation steps, or a workflow, in a scientific application. Important processes should be recorded for provenance purposes.
Security Service	Oversight service for authentication and authorisation of user requests to the infrastructure.
Semantic Annotation	Link from an information object (single datum, data set, data container) to a concept within a conceptual model, enabling the discovery of the meaning of the information object by human and machines.
Semantic Broker	Broker for establishing semantic links between concepts and bridging queries between semantic domains.
SV Community Behaviour	A behaviour enabled by a Semantic Mediator that unifies similar data (knowledge) models based on the consensus of collaborative domain experts to achieve better data (knowledge) reuse and semantic interoperability.
Semantic Laboratory	Community proxy for interacting with semantic models.
Semantic Mediator	A passive role, which is a system or middleware facilitating semantic mapping discovery and integration of heterogeneous data.
Sensor	A passive role, which is a converter that measures a physical quantity and converts it into a signal which can be read by an observer or by an (electronic) instrument.
Sensor Network	A passive role, which is a network consists of distributed autonomous sensors to monitor physical or environmental conditions.
Service	Service or process, available for reuse.
Service Consumer	Either an active or a passive role, which is an entity using the services provided.
Service Description	Services and processes, which are available for reuse, be it within an enterprise architecture, within a research infrastructure or within an open network like the Internet, shall be described to help avoid wrong usage. Usually such descriptions include the accessibility of the service, the description of the interfaces, the description of behavior and/or implemented algorithms. Such descriptions are usually done along service description standards (e.g. WSDL, web service description language). Within some service description languages, semantic descriptions of the services and/or interfaces are possible (e.g. SAWSDL, Semantic Annotations for WSDL)
Service Provider	Either an active or a passive role, which is an entity providing the services to

be used.

Service Registry	A passive role, which is an information system for registering services.
Setup Mapping Rules	Specify the mapping rules of data and/or concepts.
Specification of Investigation Design	This is the background information needed to understand the overall goal of the measurement or observation. It could be the sampling design of observation stations, the network design, the description of the setup parameters (interval of measurements) and so on... It usually contains important information for the allowed evaluations of data. (E.g. the question whether a sampling design was done randomly or by strategy determines which statistical methods that can be applied or not).
Specification of Measurements or Observations	The description of the scientific measurement model which specifies: - what is measured; - how it is measured; - by whom it is measured; and - what the temporal design is (single /multiple measurements / interval of measurement etc.)
Specify Investigation Design	Specify design of investigation, including sampling design: - geographical position of measurement or observation (site) -- the selections of observations and measurement sites, e.g., can be statistical or stratified by domain knowledge; - characteristics of site; - pre-conditions of measurements.
Specify Measurement or Observation	Specify the details of the method of observations/measurements.
Stakeholder (synonyms: Private Investor, Private Consultant)	An active role, a person, who makes use of the data and application service for predicting market so as to make business decision on producing related commercial products.
Storage	A passive role, which is memory, components, devices and media that retain digital computer data used for computing for some interval of time.
Storage Administrator	An active role, which is a person who has the responsibilities to the design of data storage, tune queries, perform backup and recovery operations, raid mirrored arrays, making sure drive space is available for the network.
Store Data	Archive or preserve data in persistent manner to ensure continuing accessible and usable.
Subsystem	A set of capabilities that collectively are defined by a set of interfaces with corresponding operations that can be invoked by other subsystems. Subsystems can be executed independently, and developed and managed incrementally.
Technician	An active role, which is a person who develop and deploy the sensor instruments, establishing and testing the sensor network, operating,

maintaining, monitoring and repairing the observatory hardware.

Track Provenance

Add information about the actions and the data state changes as data provenances.

Unique Identifier (UID)

With reference to a given (possibly implicit) set of objects, a unique identifier (UID) is any identifier which is guaranteed to be unique among all identifiers used for those objects and for a specific purpose.

User Behaviour Tracking

A behaviour enabled by a Data Use Subsystem that to track the Users. User Behaviour Tracking is the analysis of visitor behaviour on a website. The analysis of an individual visitor's behaviour may be used to provide options or content that relates to their implied preferences; either during a visit or in the future visits. Additionally, it can be user to track content use and performance.

User Group Work Supporting

A behaviour enabled by a Data Use Subsystem that to support controlled sharing, collaborative work and publication of results, with persistent and externally citable PIDs.

User Profile Management

A behaviour enabled by a Data Use Subsystem that to support persistent and mobile profiles, where profiles will include preferred interaction settings, preferred computational resource settings, and so on.

User Working Space Management

A behaviour enabled by a Data Use Subsystem that to support work spaces that allow data, document and code continuity between connection sessions and accessible from multiple sites or mobile smart devices.

User Working Relationships Management

A behaviour enabled by a Data Use Subsystem that to support a record of working relationships, (virtual) group memberships and friends.

Virtual Laboratory

Community proxy for interacting with infrastructure subsystems.

Virtual Research Environment

(VRE, synonyms: Science Gateway, Collaboratory, Digital Library, Inhabited Information Space, Virtual Laboratory):a web-based working environment tailored to serve the needs of a research community. A VRE is expected to provide an array of commodities needed to accomplish the research community's goal(s); it is open and flexible with respect to the overall service offering and lifetime; and it promotes fine-grained controlled sharing of both intermediate and final research results by guaranteeing ownership, provenance and attribution.