The RDA CoreTrustSeal adoption story across domains and regions

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CoreTrustSeal offers to any interested data repository a core level certification based on the DSA-WDS Core Trustworthy Data Repositories Requirements catalogue and procedures. This universal catalogue of requirements reflects the core characteristics of trustworthy data repositories, and is the culmination of a cooperative effort between the Data Seal of Approval (DSA) and the World Data System of the International Science Council (WDS) under the umbrella of the Research Data Alliance (RDA) to harmonize their data repository certifications.

A global set of 6 adoption stories inspires its further uptake by sharing a wide variety of challenges faced, implementation processes and lessons learned.

Enabling open research publishing: the RDA FAIRsharing registry output by Wiley



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Wiley is a research publisher that. Loves the curiosity of researchers that sparking questions - that lead to discoveries and solutions to the challenges we all face.

RDA helps Wiley make open research publishing easier for researchers, for instance through the work of the Scholarly Link Exchange Working Group, the FAIRsharing Registry Working Group and the Data Policy Standardisation and Implementation Interest Group.



frd-alliance.org

enquiries@rd-alliance.org

@resdatall



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Adoptionfrom output to story

rd-alliance.org

Since 2013,

38 flagship recommendations & outputs

have been produced by RDA Working Groups and Interest Groups. These are very wide ranging, addressing registries for persistent identifiers and data types, policy templates, repository audit methodologies, standards directories, curricula, wheat data interoperability, data/literature cross-linking and many other fields. A number of recommendations have also been endorsed as ICT technical specifications by the European Multi-Stakeholder Platform on ICT specifications.

To see how to implement the RDA outputs to improve the sharing, exchange and interoperability of your own data, we've asked RDA members who have already adopted RDA outputs, to share their experience and lessons learned in a story. Some of these stories by individuals, organisations & projects are collected here.

Improving **Citation of** evolving data in distributed asynchronous infrastructures

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• consortium



The Virtual Atomic and Molecular Data Centre (VAMDC) is a consortium of institutes and research institutions that share a common technical and political framework for the distribution and curation of atomic and molecular data. The VAMDC Consortium technical framework relies on the use of the e-science VAMDC infrastructure that provides the international research community with access to a broad range of atomic and molecular (A&M) data compiled within a set of A&M databases and accessible through the provision of a single portal.

VAMDC implemented both, the RDA recommendations for Data Citation to identify and cite dynamic data and also the Scholix output to link datasets from the VAMDC.

Towards Sustainable **Research Data Repositories:** adoption stories by the OECD







The Organisation for Economic Co-operation and Development (OECD) Global Science Forum (GSF) adopted the Income Streams for Data Repositories report produced by the RDA/WDS Publishing Data Cost Recovery for Data Centres Interest Group. This group provided the OECD with a substantial overview on income streams for data repositories. This was consolidated and expanded in the OECD-GSF in-depth economic analysis and then into the OECD policy report and recommendations on Business Models for Sustainable Research Data Repositories.

The RDA community and Plenary meetings were also used to gather additional input to the OECD project and many RDA members attended two dedicated OECD project workshops.

Data standards for Agriculture: **INRA** adoption of RDA Outputs



The French National Institute for Agricultural Research (INRA) is Europe's top agricultural research institute and the world's number two centre for agricultural sciences. Being part of the RDA Interest Group on Agricultural Data has been particularly fruitful in terms of strategic and technical advances to increase scientific data discoverability and interoperability at a community level on Wheat Data for or with regard to semantic-based solutions for data handling and analyzing. Other RDA outputs are of importance for INRA, including those by the Libraries for Research Data IG which help define the role of librarians from INRA in data management and sharing.



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RDA has also been the place to develop INRA's research networks and federate to address major issues induced by data sharing.

Dynamic Data Citation for frequently modifying High Resolution **Climate Data**



limate Change Centre



The Climate Change Centre Austria (CCCA) Data Centre expected a comprehensive project outcome of completely new simulated High Resolution Climate Scenarios for Austria in the time range from 1965 to 2100 on a daily basis. For consumption, 13 model runs, 5 meteorological parameters (e.g. temperature), 3 emission scenarios, and over 1600 NetCDF files with an average size of 13 GB were calculated. How could they implement proper data management processes on such data packages?

While looking for best practices on persistent identifiers and sub-setting tools for such big data containers, they met members of the RDA Data Citation Working Group. The idea of using the RDA recommendation on dynamic data citation as a pilot "NetCDF Pilot Implementation of Climate Scenarios" was born.



Implementing **Data Citation** on the Earth **Observation Data Centre for Water** Resource Monitoring (EODC)



The Earth Observation Data Centre for Water Resource Monitoring (EODC) located in Austria works with high-performance computing services and large amounts of data on a daily basis. Since 2017, it has been part of the consortium implementing the open Earth Observation (openEO) standard, which aims to standardize communication between EO scientists and data and service providers. It allows scientists to write code one time only and use it on different backend providers, but has the downfall of being not transparent. Adding data citation to the standardized process enables insights into what specific data was used in EO workflows. EODC adopted the RDA Data Citation Recommendations on an openEO.

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Enabling FAIR Data in the Earth, Space, and Environmental Sciences



Building on the earlier development of the FAIR (Findable, Accessible, Interoperable, and Reusable) principles for scientific data management and stewardship, the American Geophysical Union (AGU) spear-headed The Enabling FAIR data project, aiming to make data FAIR across the Earth and space science community. This effort built on the work of The Coalition on Publishing Data in the Earth and Space Sciences (COPDESS.org), Earth Science Information Partners (ESIP), Research Data Alliance (RDA), the scientific journals, and domain repositories to ensure that well documented data, preserved in a repository with community agreed-upon metadata, and supporting persistent identifiers becomes part of the expected research products submitted in support of each publication. The project collaborated closely with the RDA Data policy standardisation and implementation IG and adopted an open, universal literature-data cross-linking service - RDA/WDS Publishing Data Services WG Recommendations and the Repository Audit and Certification DSA-WDS Partnership WG Recommendations.



Making Social Sciences and Humanities' Language Datasets accessible for humans and machines





CLARIN ERIC is a European research infrastructure for the social sciences and humanities. Their goal is to store and make Language Data available through repositories and tools for researchers. There are lots of language data and many tools available that can process these data. CLARIN's challenge was to document this and make it easy to access for humans and machines.

The RDA Data Fabric outputs fit well with the CLARIN ecosystem to cross connect datasets from neighbouring communities such as DARIAH and Europeana, making the dataflow work and ensuring interoperability.

Improving scholarly communication, linking datasets from institutional repositories with **RDA/WDS ScholeXplorer**





OpenAIRE (openaire.eu) is an EC-funded initiative that aims to support the Open Access policy of the European Commission via a Networking and a Technical infrastructure. OpenAIRE services populate a wide graph of interlinked scholarly objects: publications, datasets, authors, organizations, data sources, funders, and projects. It acts as a data source for the OpenAIRE Schole Xplorer Service, developed by the RDA/WDS Publishing Data Services Working Group, exposing its literature - dataset links collected and inferred from institutional repositories.

OpenAIRE also implemented the RDA/WDS Publishing Data Services WG Outputs, a framework for sharing information about the links between literature and research data; and the Scholix Interoperability Framework: an interoperability framework for exchanging information about the links between scholarly literature and data.