



# Certification of data repositories: CDS experience and RDA outputs

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(thanks to I. Dillo and Hervé Lefebvre)

research data sharing without barriers  
[rd-alliance.org](http://rd-alliance.org)



**Perhaps the biggest challenge in sharing data is trust: how do you create a system robust enough for scientists to trust that, if they share, their data won't be lost, garbled, stolen or misused?**

## **The Data Harvest:**

**How sharing research data can yield knowledge, jobs and growth**

**An RDA Europe Report**

**December 2014**



# What is a trustworthy repository?

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- mission to provide reliable, long-term access to managed digital resources to its designated community, now and into the future
- constant monitoring, planning, and maintenance
- understand threats to and risks within its systems
- **regular cycle of audit and/or certification**



# The certification landscape

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- 4 certification standards available



DIN 31644



WORLD DATA SYSTEM



ISO 16363

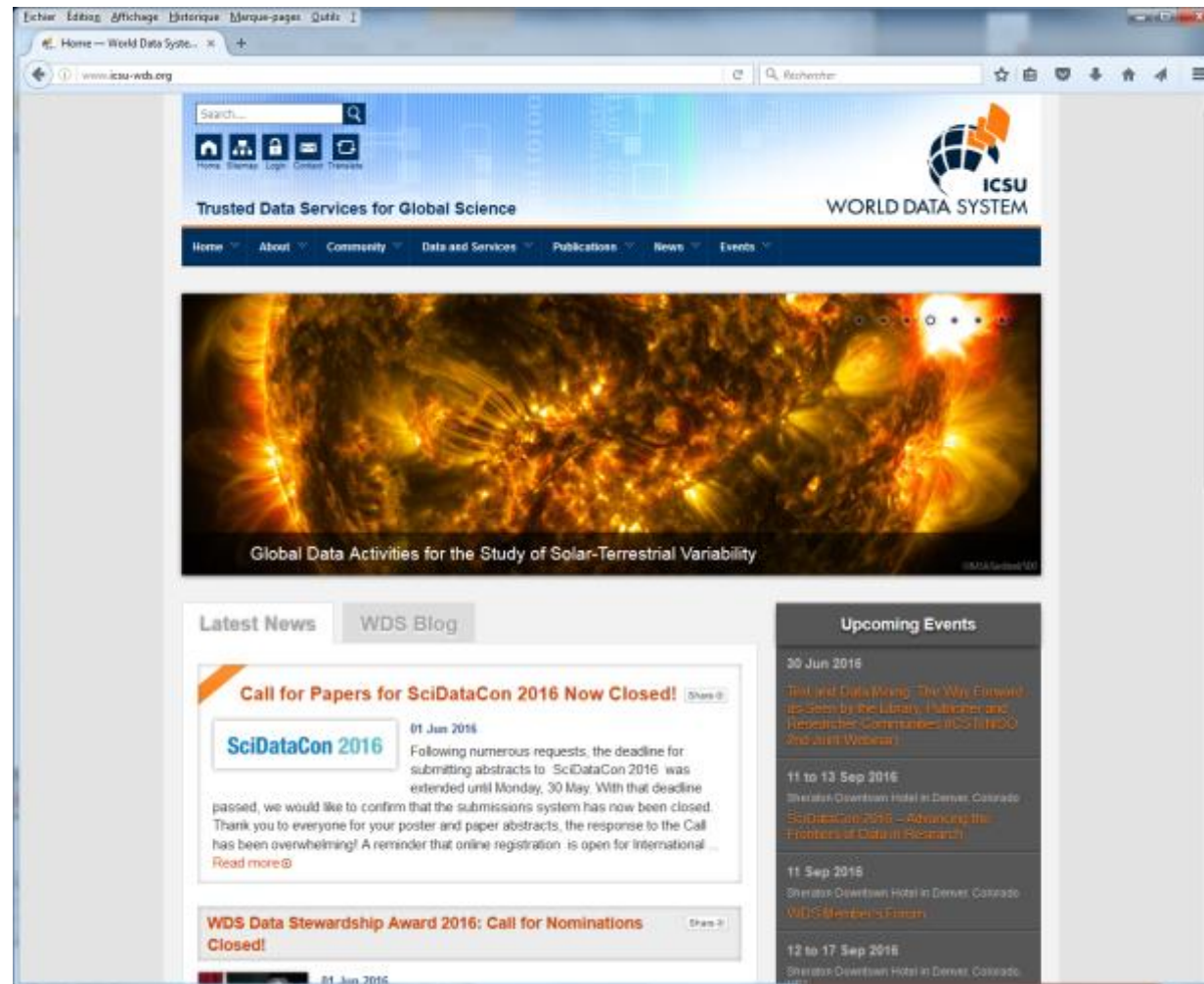
# The Data Seal of Approval

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# The World Data System

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# European certification framework

- **Basic Certification** is granted to repositories which obtain DSA certification . ICSU-WDS at the same level
- **Extended Certification** is granted to Basic Certification repositories which *in addition* perform a structured, externally reviewed and publicly available self-audit based on DIN 31644/nestorSeal
- **Formal Certification** is granted to repositories which *in addition to* Basic Certification obtain full external audit and certification based on ISO 16363



# Why a formal audit/certification?

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- ***Yes, why, since our users trust us?***

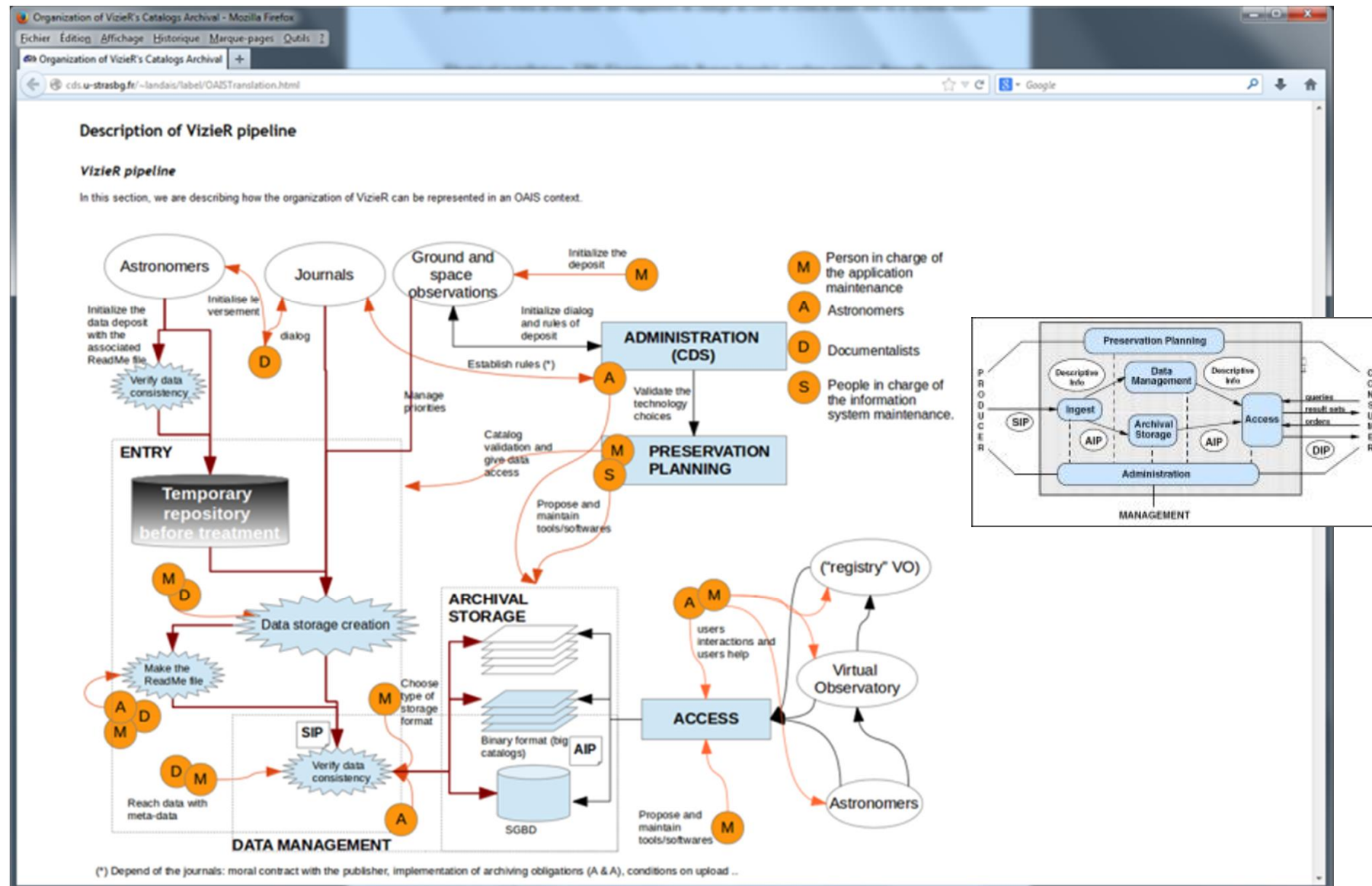


# The example of CDS

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- Trusted by users, data providers and agencies: did not want to care about ~~formal~~ certification for years
- Nevertheless underwent ~~basic~~ certification in the WDS and DSA contexts
- An in-depth work on our procedures when checking the criteria
- A very interesting team work
- Finally no change in our process but an end-to-end description, clarification of licensing aspects, etc
- Very positive reaction from our authorities, the journal we work with, etc
- **It was worth it**

# OAIS-like description of our services



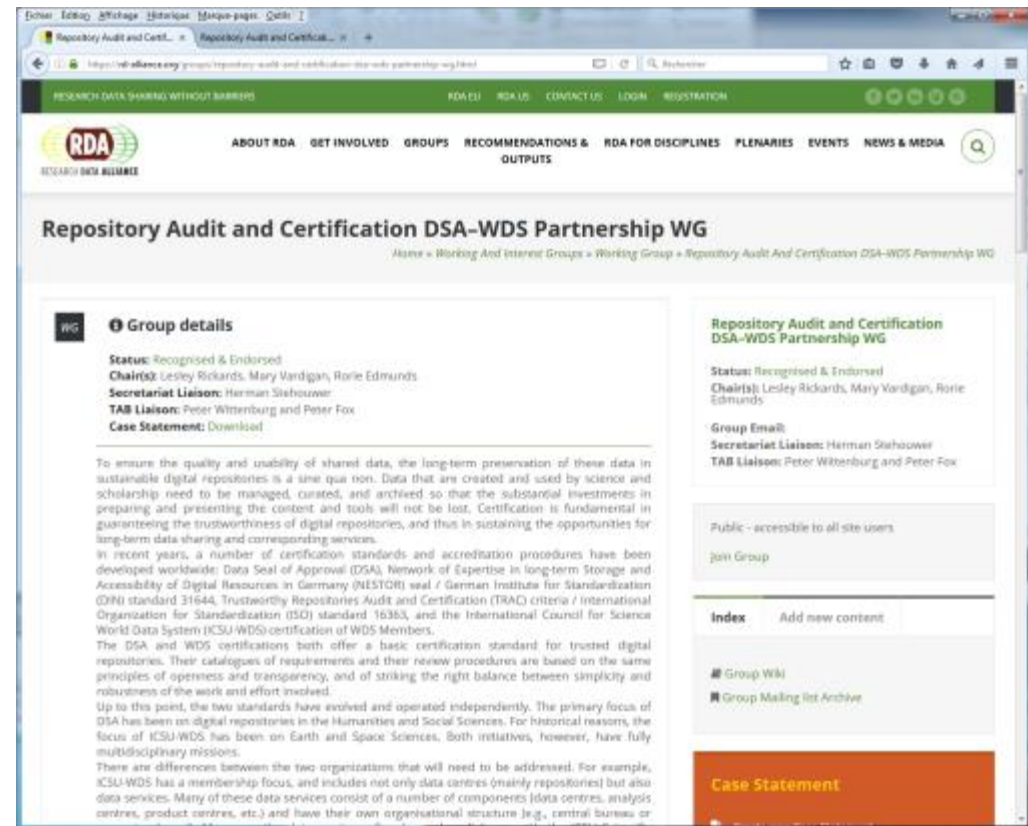
- Real interest for the data providers
  - An important element of Data Management Plans, which are more and more required by research funding agencies
- Butõ What to do in practice when you are a data provider?
- An important topic to tackle within the RDA
- RDA established partnership with WDS on that topic (and others): a common Interest Group
- WDS + DSA : RDA/CDS Certification of digital repositories WG



## The RDA DSA-WDS Working Group

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RDA WGs have  
18 months to  
propose  
« implementable »  
recommendations



The screenshot displays the RDA website's page for the Repository Audit and Certification DSA-WDS Partnership Working Group. The page features a green header with the RDA logo and navigation links. The main content area includes a 'Group details' section with the following information:

- Status:** Recognised & Endorsed
- Chair(s):** Lesley Rickards, Mary Vardigan, Rorie Edmunds
- Secretariat Liaison:** Herman Stehouwer
- TAB Liaison:** Peter Wittenburg and Peter Fox
- Case Statement:** Download

The page also contains a detailed text block explaining the purpose of the working group, the importance of digital preservation, and the roles of DSA and WDS. A sidebar on the right provides additional links and a 'Case Statement' download button.

# Certification WG background

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- Data Seal of Approval and World Data System both lightweight mechanisms for repository assessment
  - Self-assessment, no on-site visit
  - Peer-reviewed assessment supervised by the DSA Board and the WDS Scientific Committee
- DSA began in social science and humanities, WDS in natural and physical sciences but both expanding in scope
- Over past years, both groups began to see synergies
- Common members!
- DSA/WDS Certification WG

## WG Goals, which were achieved

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- Develop common catalog of criteria for basic repository assessment
- Develop common procedures for assessment
- Implement a shared testbed for assessment
- i.e. *alignment*
- *DSA & WDS are implementing the recommendations*
- *For a later stage* : Ultimately, create a shared framework for certification including other standards as well



# The WG Recommendations are on line

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The screenshot shows a web browser displaying the RDA website. The page title is "Repository Audit and Certification DSA-WDS Partnership WG Recommendations". The RDA logo is visible in the top left. The navigation bar includes links for ABOUT RDA, GET INVOLVED, GROUPS, RECOMMENDATIONS & OUTPUTS, RDA FOR DISCIPLINES, PLENARIES, EVENTS, NEWS & MEDIA, and a search icon. The main content area features a section for the "Repository Audit and Certification DSA-WDS Partnership WG" with a list of chairs: Lesley Rickards, Mary Vardigan, and Rorie Edmunds. Below this, there is a paragraph explaining the two-part recommendation: a Catalogue of Common Procedures for certification and a focused second part. Further down, it describes the development of the Catalogue of Common Procedures by the DSA-WDS Partnership Working Group. At the bottom, there is a "File:" section with two PDF documents: "DSA-WDS Catalogue of Common Requirements V2.2.pdf" and "DSA-WDS Partnership - Procedures for Core Certification V1.2.pdf". A sidebar on the right contains information about the group's status (Recognised & Endorsed), chair(s), group email, secretariat liaison, and TAB liaison. It also includes links for "Public - accessible to all site users" and "Join Group". At the bottom of the sidebar, there are links for "Index", "Add new content", "Group Wiki", and "Group Mailing list Archive". A red banner at the bottom of the sidebar says "Case Statement" with a link to "Create new Case Statement".

Repository Audit and Certification DSA-WDS Partnership WG Recommendations

Repository Audit and Certification DSA-WDS Partnership WG

**Chairs:**  
Lesley Rickards, Permanent Service for Mean Sea Level  
Mary Vardigan, ICPSR  
Rorie Edmunds, ICSU World Data System

The Repository Audit and Certification DSA-WDS Partnership WG has produced a two-part recommendation. The first part consists in a Catalogue of Common Procedures for certification, while the second part is focused on a Catalogue of Common Requirements.

The Catalogue of Common Procedures was developed by the DSA-WDS Partnership Working Group on Repository Audit and Certification, a Working Group (WG) of the Research Data Alliance (RDA). The goal of the effort was to create a set of harmonized Common Procedures for certification of repositories at the basic level, drawing from the procedures already put in place by the Data Seal of Approval (DSA) and the ICSU World Data System (ICSU-WDS). These procedures are intended to support the implementation of the Catalogue of Common Requirements developed by the WG to harmonize the certification criteria previously established by the DSA and ICSU WDS.

In developing and implementing the Common Procedures, the Working Group decided to introduce shared practices gradually, with the first step being that both organizations will implement the Catalogue of Common Requirements within their existing systems, following agreed-upon procedures. However, the ultimate aims are to bring the organizations closer together, with tighter integration, and to collaborate on a certification framework that involves higher level standards such as nestorSeal DIN 31644 (extended level certification) and ISO 15363 (formal level certification).

**File:**  
DSA-WDS Catalogue of Common Requirements V2.2.pdf  
DSA-WDS Partnership - Procedures for Core Certification V1.2.pdf

- Log in or register to post comments
- 1749 reads

**Repository Audit and Certification DSA-WDS Partnership WG**

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Public - accessible to all site users  
Join Group

**Index** Add new content

Group Wiki  
Group Mailing list Archive

**Case Statement**  
Create new Case Statement

<https://rd-alliance.org/group/repository-audit-and-certification-dsa%E2%80%93partnership-wg/outcomes/dsa-wds-partnership>

# Common requirements

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- 16 common criteria
- Each criterion comes with guidance and self assessment level
- **Repository Context: an essential element. The trustworthiness evaluation depends on the data repository mission!**
- Three topics addressed
  - Organisational infrastructure
  - Digital object management
  - Technology
- List of criteria in annex at the end of the talk

# Strong message

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- Very useful for self-assessment even if not submitted for external review!
- All criteria come with guidance and self-assessment of compliance level (not to be used by the external reviewers but here to help the applicants)



# Organisational infrastructure

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- Mission/scope
- Licenses
- Continuity of access
- Confidentiality/Ethics
- Organisational infrastructure
- Expert guidance

- Data Integrity and authenticity
- Appraisal
- Documented storage procedure
- Preservation plan
- Data quality
- Workflows
- Data discovery and identification
- Data reuse

# Technology

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- Technical infrastructure
- Security



- R0 Context

Please provide context for your repository

- R1 Mission/Scope

Organizational Infrastructure

The repository has an explicit mission to provide access to and preserve data in its domain

- R2 Licenses

Organizational Infrastructure

The repository maintains all applicable licenses covering data access and use and monitors compliance

- R3 Continuity of access

Organizational infrastructure

The repository has a continuity plan to ensure ongoing access to and preservation of its holdings

- R4 Confidentiality/ethics

Organizational Infrastructure

The repository ensures, to the extent possible, that data are created, curated, accessed, and used in compliance with disciplinary and ethical norms

- R5 Organizational infrastructure

Organizational Infrastructure

The repository has adequate funding and sufficient numbers of qualified staff managed through a clear system of governance to effectively carry out the mission

- R6 Expert guidance

Organizational Infrastructure

The repository adopts mechanism(s) to secure ongoing expert guidance and feedback (either in-house, or external, including scientific guidance, if relevant)

- R7 Data integrity and authenticity Digital Object Management

The repository guarantees the integrity and authenticity of the data

- R8 Appraisal

Digital Object Management

The repository accepts data and metadata based on defined criteria to ensure relevance and understandability for data users

- R9 Documented storage procedures Digital Object Management

The repository applies documented processes and procedures in managing archival storage of the data

- R10 Preservation plan Digital Object Management

The repository assumes responsibility for long-term preservation and manages this function in a planned and documented way

- R11 Data quality Digital Object Management

The repository has appropriate expertise to address technical data and metadata quality and ensures that sufficient information is available for end users to make quality-related evaluations

- R12 Workflows

Digital Object Management

Archiving takes place according to defined workflows from ingest to dissemination

- R13 Data discovery and identification Digital Object Management

The repository enables users to discover the data and refer to them in a persistent way through proper citation

- R14 Data reuse

Digital Object Management

The repository enables reuse of the data over time, ensuring that appropriate metadata are available to support the understanding and use of the data



- R15 Technical infrastructure

Technology

The repository functions on well-supported operating systems and other core infrastructural software and is using hardware and software technologies appropriate to the services it provides to its Designated Community

- R16 Security

Technology

The technical infrastructure of the repository provides for protection of the facility and its data, products, services, and users