# Royal Netherlands Academy of Arts and Sciences (KNAW)

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# DANS Certification Efforts Use Case

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**Conference paper**

## Summary

In this paper the author discusses the importance of certification efforts for DANS and presents the lessons that were learnt from the DANS certification activities.

## Introduction

If we want to be able to share data, we need to store them in a trustworthy digital repository. Data created and used by scientists should be managed, curated, and archived in such a way to preserve the initial investment in collecting them. Researchers must be certain that data held in archives remain useful and meaningful into the future. Funding authorities increasingly require continued access to data produced by the projects they fund, and have made this an important element in Data Management Plans. Indeed, some funders now stipulate that the data they fund must be deposited in a trustworthy repository.

Sustainability of repositories raises a number of challenging issues in different areas: organizational, technical, financial, legal, etc. Certification can be an important contribution to ensuring the reliability and durability of digital repositories and hence the potential for sharing [1]data over a long period of time. By becoming certified, repositories can demonstrate to both their users and their funders that an independent authority has evaluated them and endorsed their trustworthiness.

**DANS and certification**

Data Archiving and Networked Services (DANS) is a national service provider based in the Netherlands. DANS has a mission to promote sustained access to digital research data [1]. DANS encourages scientific researchers to archive and reuse data in a sustained form, for instance via the online archiving system EASY and DataverseNL. Through its national portal to scientific information NARCIS, DANS also provides access to thousands of scientific datasets, publications and other research information in the Netherlands. The institute furthermore provides training and consultancy and carries out research on sustained access to digital information. Driven by data, DANS ensures the further improvement of access to digital research data with its services and participation in (inter)national projects and networks.

DANS is an institute of and funded by the national research council NWO and the national academy KNAW. These two organisations assigned DANS the task of developing a Seal of Approval for digital data to ensure that archived data can still be found, understood and used in the future. In 2009 this national Data Seal of Approval (DSA) was transferred to an international body, the DSA Board, which has managed and further developed the guidelines and the peer review process ever since[2].

The objectives of the Data Seal of Approval are to safeguard data, ensure high quality and guide reliable management of data for the future without requiring implementation of new standards, regulations or heavy investments. The Data Seal of Approval contains 16 guidelines for applying and verifying quality aspects concerning the creation, storage, use and reuse of digital data.

Today DANS is still active in the DSA Board and community and has since then also become involved in the communities of other standards for the certification of digital repositories, the nestorSeal and the ICSU/World Data System. The nestorSeal provides a set of 34 criteria that were developed by the German organization NESTOR (a consortium of museums, archives and libraries) and formalized as the DIN 31644 standard[3]. The ICSU/World Data System offers a certification procedure for evaluating candidates for membership. This certification contains 17 criteria[4]. All three standards are based on a self-assessment against their criteria that is peer reviewed. DSA and ICSU/WDS offer a core certification level. The nestorSeal offers an extended certification level.

Not only is DANS involved in the development of these standards and review processes, DANS has also certified itself against these three standards.

**DANS use case**

In 2011 DANS obtained its first DSA. During that same year DANS was one of the test cases of the ISO16363 standard[5]. Two years later DANS had to renew its DSA seal. In 2014 DANS became a certified member of the ICS/WDS and early this year DANS acquired the nestorSeal[6].

This overview shows that the organization has put a lot of time and effort in the certification of its repository. What were the main drivers for investing so heavily in these processes? The first one is the fact that certification is an important means to build trust in the repository with clients, both depositors and users of data, partner organizations and with research funders

Secondly, and maybe even more important is the fact that certification can be used as the proverbial 'big stick' to further develop and professionalize core services, workflows and the organization as a whole.

What lessons can be learnt? There are three important observations to be made.

The first one is that commitment on management level is crucial, in order to keep the long term certification process on the agenda and not being pushed aside by other urgent priorities. This commitment can be obtained by making certification one of the strategic targets of the organization and incorporating it into the long-term policy cycle.

Secondly, broad support within the organization is needed. Certification leads to lots of extra work that sometimes does not seem to deliver added value right away. This might lead to resistance within the organization. Therefore, a lot of attention should go to the internal communication of the certification project and its benefits for the organization. It is also important to apply a practical approach and to start with topics that are already on the agenda from a different perspective. There might for example be activities already planned in the framework of an externally funded project that are also beneficial to the certification goals.

Finally, it is recommended to use the tiered framework for certification and start at the core level (DSA, WDS). Aiming too high at once might discourage people and lead to never ending projects. The work that is done on one level feeds into the next level.

# Competing Interests

The author declares that she has no competing interests.

# Notes

1. http://dans.knaw.nl/en (http://dans.knaw.nl/en)

2. http://datasealofapproval.org (http://datasealofapproval.org)

3. http://www.langzeitarchivierung.de/Subsites/nestor/DE/nestor-Siegel/siegel_node.html (http://www.langzeitarchivierung.de/Subsites/nestor/DE/nestor-Siegel/siegel_node.html)

4. https://www.icsu-wds.org/services/certification (https://www.icsu-wds.org/services/certification)

5. http://www.iso16363.org (http://www.iso16363.org)

6. http://dans.knaw.nl/en/about/organisation-and-policy/certification (http://dans.knaw.nl/en/about/organisation-and-policy/certification)