National training and community platform for research data professionals

Project proposal in response to the offerteaanvraag by NWO for a *Nationaal training- en communityplatform voor researchdataprofessionals* (Dossiernummer 2023120)

Written by members of the RDNL consortium, which consists of DANS, SURF, 4TU.ResearchData and Health-RI

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The structure of this document is based on the structure in the *Offerteaanvraag*.

1. Action Plan

1.1. Vision

"Open Science is a global transition to making scientific research practices more open and collaborative, for greater scientific and societal impact."[1] By the end of this project, the capacity of data stewards in The Netherlands to contribute to this transition will have increased. This growth is not just in terms of the number of capable data stewards, but also in their enhanced skills and competences. "Capacity building initiatives provide much needed training and support to navigate the technical, legal, social, cultural and ethical aspects of open science, thereby enabling communities to overcome barriers and embrace new approaches."[2]

We anticipate three major outcomes from this project, significantly impacting data stewardship and Open Science in the Netherlands. These outcomes roughly correspond to work packages 2-4 below.

Outcome 1: Data professionals and research-performing organisations in the Netherlands will have a clear understanding of the various competencies and skills of a data steward. This will be facilitated by an explicitly described competence framework and curriculum for this profession, endorsed by key stakeholders. Although our focus is national, we ensure international alignment by incorporating international curriculum developments. By collaborating with communities of data professionals and providers of data-related trainings on curriculum development, but also in aligning, updating and developing trainings that fit the curriculum, we ensure their relevance and quality. By the end of the project, at least 200 data professionals will have been trained, in person or online.

Outcome 2: Data stewardship training provisions in The Netherlands are more coherent and efficient, thanks to an online platform where the data steward curriculum ('what should I know') connects to learning paths ('how can I get there') and training provisions ('I will register for this specific training' or 'these training materials are useful for me'). A digital certificate awarded after successful completion of a course that fits the curriculum, supports (aspiring) data professionals in their life-long learning process. The platform also facilitates feeding back on training events and materials, enabling enhancements.

Outcome 3: A broad representation of national stakeholders will have been consulted on governance and sustainability scenarios, which incorporate lessons learned from developing and running the platform and carrying out the project. A governance structure and sustainability plan will be in place to allow the platform with the trainings to continue to exist and evolve. Put

[1] https://www.openscience.nl/sites/open_science/files/media-files/final_npos2030_ambition_document_and_rolling_agenda.pdf p.1
[2] https://www.openscience.nl/sites/open_science/files/media-files/Work%20programme%202024-2025.pdf p.7

differently, the platform at large will remain the go-to place for those looking to advance their careers as data professionals.

1.2. Working definitions and abbreviations

To present the proposal clearly, it is important to describe some key notions. In this project, we use the following working definitions:

Term	Working definition
Certification	A certificate in the form of a digital badge will be issued to a data professional who successfully participated in a curriculum-aligned training
Course	The terms 'course' and 'training' are used interchangeably; with 'coursework' we mean the work that participants do within a training.
Curriculum	A document that describes the activities related to the design, organisation and planning of training for data professionals, including the definition of learning objectives, the content and formats of courses, methods for assessment of learners and evaluation of programmes as well as arrangements for training teachers and trainers [adapted from source[3]]
Data professional	The terms 'data professional' and 'data steward' are used interchangeably
Data steward	The activities of a data steward concern developing and advising on Research Data Management (RDM) services and products, as well as monitoring research data, within set laws and regulations in order to ensure efficient management of research data, promote reproducibility and encourage reuse. [Translated from UFO profiel Data Steward 2021-08]
Education	Refers to formal school curricula at universities, university medical centres, and universities of applied sciences. Typically, these are semester courses, with a strong theoretical basis.[4] See also Training.
Learning path	Learning Paths (LPs) are pathways that guide learners through a set of learning courses or materials to be undertaken progressively to acquire the desired knowledge and skills on a subject of interest. [5]
The Platform	Short for the 'National training and community platform for research data professionals'

[3] https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?letter=C

[4] Mijke Jetten, Marjan Grootveld, Annemie Mordant, Mascha Jansen, Margreet Bloemers, Margriet Miedema, & Celia W.G. van Gelder. (2021). Professionalising data stewardship in the Netherlands. Competences, training and education. Dutch roadmap towards national implementation of FAIR data stewardship (1.1). Zenodo. https://doi.org/10.5281/zenodo.4623713 p.21

[5] https://elixir-europe.org/focus-groups/learning-paths

Stakeholder	An organisation or virtual organisation that has a significant interest in the ambition of the training and community platform
SWOT analysis	SWOT analysis is a technique for assessing the four aspects - Strengths, Weaknesses, Opportunities, and Threats of the business
Taxila	Taxila is an application that provides an overview of training, learning, and teaching materials for trainers and trainees, from 30 providers in the Netherlands (universities, UAS, NOW, SURF a.o). Taxila offers the possibility to integrate Learning Paths.
Third Party	Third parties are all parties that are not the contracting parties. In all likelihood more organisations than the project partners will be substantially involved in providing trainings that align with the curriculum to be. The project reserves some budget to formally engage with such a party for the benefit of the Platform and its intended users. OpenScience NL will be contacted before the project enters into a contract.
Trainer	Anyone who fulfils an activity linked to the (theoretical or practical) training function, either in an institution for education or training, or at the workplace.[6]
Training	Training is often shorter than education and is tailored to the use of tools and to the implementation of the learning outcomes in daily practice. The terms ‘training’ and ‘course’ are used interchangeably. Where relevant we distinguish between ‘training event’ and ‘training materials’.

Abbreviations used in this document are:

Abbreviation	Explanation
ABC-LD	ABC-LD stands for ABC Learning Design and is a widely used curriculum design method (https://abc-ld.org/)
DCC	Digital Competence Center
DCC-PO	Knowledge centre for research support in practice-based research (https://dcc-po.nl/)
DSIG	Data Steward Interest Group (https://tdcc.nl/dsig/)
E4DS	The introductory course, “Essentials 4 Data Support,” that is currently

[6] https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?letter=T

	delivered in Dutch and English by RDNL, as seen here https://datasupport.researchdata.nl/en/ and currently offered three times per year.
E4DSplus	Working name for any and all proposed course(s) to be developed within the project in the curriculum design and development tasks, that continue the professionalisation of data stewards.
EOSC	European Open Science Cloud (https://www.eosc.eu)
GDPR	General Data Privacy Regulation (Dutch: Algemene Verordening Gegevensbescherming)
GDPR4DS	The advanced course, “GDPR 4 Data Support” that focuses on the interpretation and implementation of data privacy and security in the data steward profession, currently offered once per year.
HEI	Higher-Education Institution
KB	National Library of the Netherlands (Dutch: Koninklijke Bibliotheek, https://www.kb.nl/en)
KNAW	Royal Netherlands Academy of Arts and Sciences (https://www.knaw.nl/en)
LCRDM	National Coordination Point Research Data Management (https://lcrdm.nl/)
LDCC	Network of local Digital Competence Centers (https://lcrdm.nl/dcc/)
LMS	Learning Management System
NFU	National association of collaborating university hospitals (www.nfu.nl)
NleSC	Netherlands eScience Center (https://www.esciencecenter.nl/)
NL-RSE	Community of people writing and contributing to research software from Dutch universities (https://nl-rse.org/)
NWO	Dutch Research Council (Dutch: Nederlandse Organisatie voor Wetenschappelijk Onderzoek, https://www.nwo.nl/en)
NWO-i	Foundation for Dutch Scientific Research Institutes (https://www.nwo.nl/en/nwoi)
OCW	Ministry of Education, Culture and Science (Dutch: Ministerie van Onderwijs, Cultuur en Wetenschap, https://www.rijksoverheid.nl/ministeries/ministerie-van-onderwijs-cultuur-en-wetenschap)
OSC-NL	Open Science Communities in the Netherlands (https://osc-international.com/open-science-community-the-netherlands/

RASCI	A RASCI matrix is a model to describe roles and responsibilities. RASCI stands for Responsible, Accountable, Supporting, Consulted and Informed
RDNL	Research Data Netherlands (https://researchdata.nl)
RPO	Research-Performing Organisation
SHB	Network of UAS libraries (Dutch: Kennisnetwerk voor hogeschoolbibliotheken, https://www.shb-online.nl/)
TDCC	Thematic Digital Competence Centre (https://tdcc.nl). TDCC-LSH: Life Sciences and Health TDCC-NES: Natural and Engineering Sciences TDCC-SSH: Social Sciences and Humanities
TP	Third Party
RDA	Research Data Alliance (https://www.rd-alliance.org/)
RSTNL	Research Software Training NL (https://researchsoftwaretraining.nl/)
UAS	University of Applied Sciences (Dutch: hogeschool)
UFO	Job classification system in Dutch universities (Dutch: Universitair Functieordeningssysteem)
UKB	Partnership of Dutch University Libraries and the KB National Library of the Netherlands (https://ukb.nl/english/)
UMC	University Medical Center
UNL	Universities of the Netherlands (https://www.universiteitenvannederland.nl/en)
VH	Vereniging Hogescholen (https://www.verenigingenhogescholen.nl/, umbrella organisation of the UAS)
ZonMw	Research Council for health, healthcare and well-being (https://www.zonmw.nl/en/)

1.3. Getting commitment

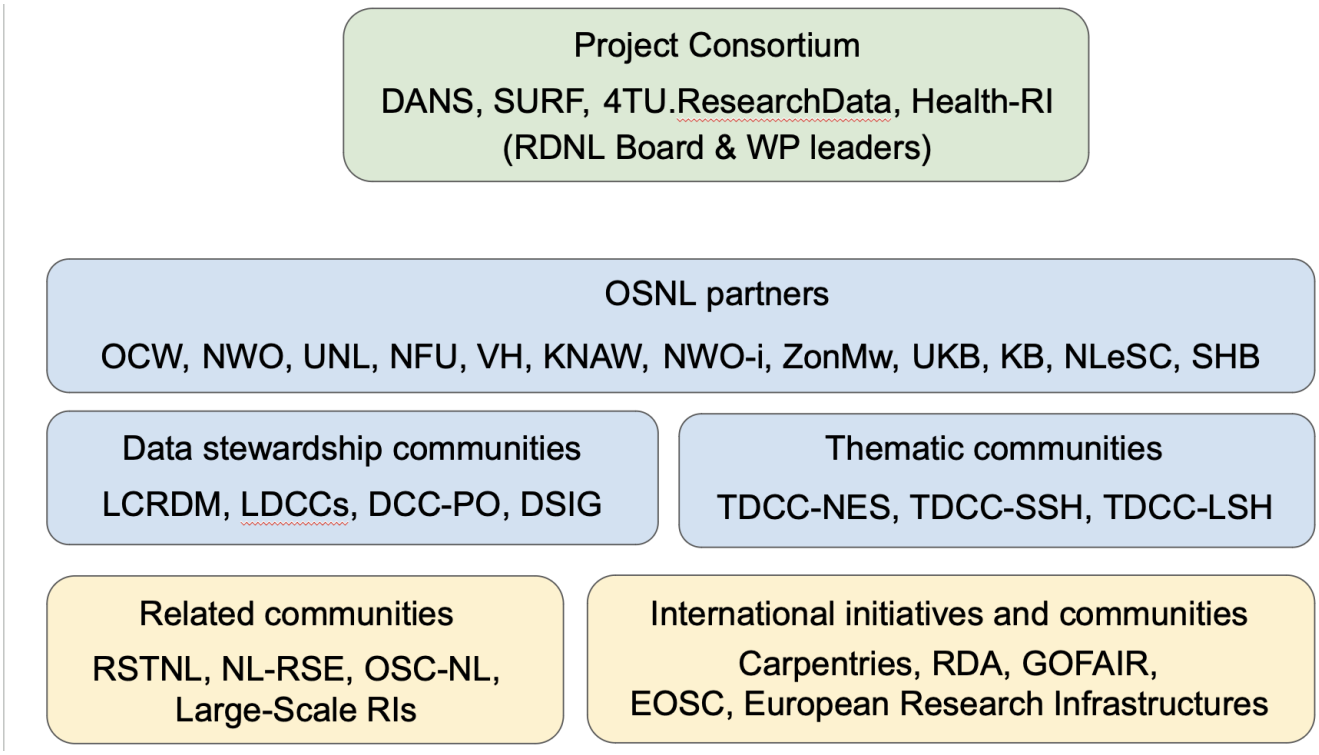

Figure 1.1: Grouping of stakeholders in this project

The Dutch research data field is wide and varied, as Figure 1.1 illustrates. In Work Package 4, we will explain how we aim to set up a Project Stakeholder Forum to facilitate commitment across the different stakeholders that we reach out to. Together, all these stakeholders have an interest in training the data professionals in the Dutch workforce. The need for harmonising and aligning is strongly felt across the sector. This project aims to address exactly this fragmentation, which will generate significant interest and commitment. The unique situation Open Science NL has created with funding for a national Platform alone will ensure support.

In its ultimate form, the 'National training and community platform for research data professionals' - from now on, the Platform[7] - will serve as a point-of-contact for all the data professionals seeking training. The Platform will be the go-to place where all Dutch training resources are easily accessible.

Our project team will actively involve various parties by inviting them to provide feedback during workshops or consultations, and to collaborate in evaluating existing training courses. Different parts of an organisation might engage with the Platform, shaping the governance structure, mapping their training materials to the emerging curriculum, or finding and offering suitable training.

[7] *Note for the reviewers of this proposal*: the writing team is discussing suggestions for a meaningful and more 'catchy' name. Ideally, this will be used in the final version of the document instead of 'the Platform'.

Throughout this project, we are committed to engaging all these stakeholders and seeking their adoption of and commitment to the Platform. Recognising that our success depends on their ability and willingness to collaborate, we will use several strategies to encourage the collaboration. Through recognition for their contributions by the project but also by Open Science NL, showing visible progress, providing certification of trainees who successfully complete a training, which benefits their employers: we aim to make this a rewarding journey for all involved.

1.4. The work packages

This large section describes the work breakdown structure, consisting of four work packages with their tasks. The four key deliverables Open Science NL expects from this project are covered as follows:

1. A curriculum and training with certification for aspiring data stewards: work package 2.
2. An online space that connects training with the community of data professionals: work package 3.
3. Governance and a sustainability plan for the longer term (that is, beyond the end of the project): work package 4.
4. Publication of the project outputs and Intellectual Property Rights: this is a shared responsibility of the project partners and addressed in Section 1.6 ‘Publication and IPR’.

In addition, work package 1 concerns project management, project-wide communication as well as project-wide administrative support of training events.

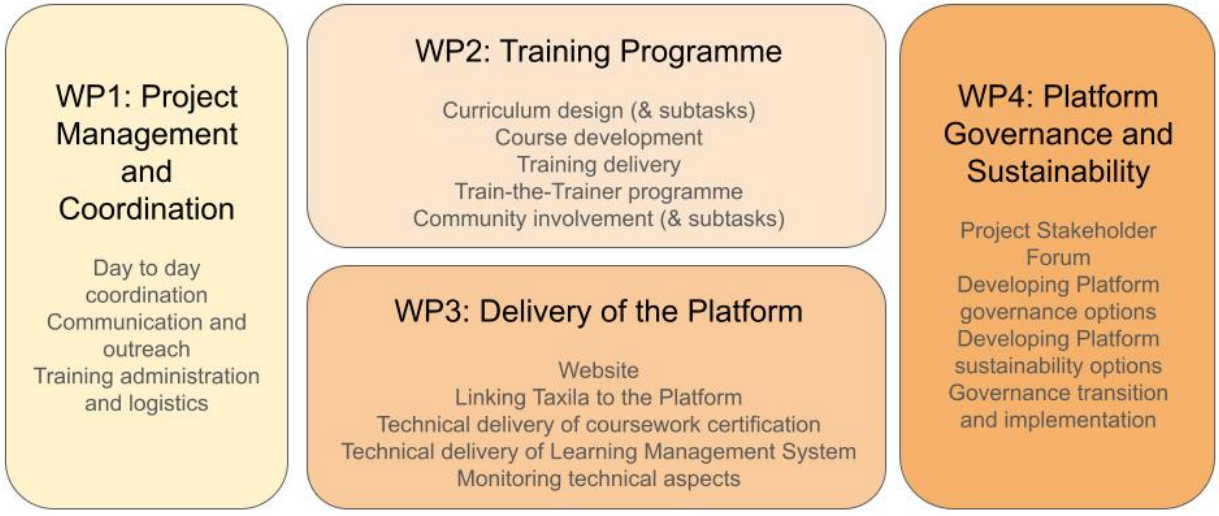

Figure 1.2: Work packages and tasks in this project

WP 1: Project management & coordination

WP objective

The objective of this WP is to oversee the project execution and support the other WPs. We will ensure an effective and efficient coordination across all activities and participants to deliver the project goals, benefits and expected impact within time, scope and budget.

Description of Work

This WP covers firstly project management within a small project office, secondly communication, and thirdly support for trainers from and training events provided by the project partners.

T1.1 Day-to-day project coordination

DANS will set up the project office. The key roles and activities that the office will fulfil are:

- Project management, including communication with Open Science NL (see Section 2.2, 'Communication between Open Science NL and the project'). Project management will establish and implement the project administration and management functions including risk management, and periodic reporting.
- Set up a Management Team, consisting of the WP1 coordinator(s) and all WP leads. This team will meet regularly and will ensure cross-WP alignment.
- Financial administration: project grant budget and accounting. This includes financial and contract administration with any Third Parties.
- Efficient and effective project monitoring and tracking risk and opportunities to assist the Management Team on taking informed decisions at all levels.
- Risk management: see Section 1.8, 'Risks and mitigation measures'
- Quality assessment: in WP1 this is relatively high-level. It is in the remit of other WPs to evaluate for instance the training materials or the platform functionality. Considerations about maintaining the quality of the platform and its content over time are addressed in WP4.
- In addition, this task will document workflows and recommendations from Tasks 1.2 and 1.3, to contribute to the sustainability information that will be collected in WP4.

T1.2 Communication and outreach

Communication and outreach is pivotal in this project, because we will align data-related training efforts in conversation and collaboration with various organisations and communities.

In the project we distinguish three types of communication. First, there is project-internal communication, for which the project leader and all WP and task leaders are responsible. Second, the project team will communicate with Open Science NL. This is the responsibility of the project leader and it is described in Section 2.2, 'Communication between Open Science NL and the project'. Third, the current task focuses on external communication. This will be initiated

and carried out by the respective WPs within a project-wide harmonised way. Task 1.2 fulfils this harmonising role:

This task is responsible for branding, layout, and 'broad communication'. It oversees the text on the platform website and in other communications ("How"), but depends on the other WPs for the content that should be communicated ("Why", "Why now", "For whom", "What about").

Furthermore, this task supports organising project events, such as community events. It aligns and supports the other WPs:

- WP2 leads the training programme and has the lead in communicating with communities of data professionals. WP1 - both Communication and Training administration and logistics - is responsible for communicating about upcoming trainings and events that target these communities. T1.2 does not update training materials.
- WP3 leads and implements the technical platform, which should have the project branding and layout as defined in T1.2.
- WP4 has the lead in communicating with (potential) members of the governance structure, again in line with the project branding and layout as defined in T1.2.
- For consistent communication and administrative efficiency, T1.2 leads the organisational side of project events. The respective WPs lead on the content and the timing.

T1.3 Training administration and logistics

This task supports the trainers in delivering training as described in T2.3 and T2.4, so that the trainers can focus on the content and the participants. T1.3 concerns primarily

- the administration of trainings delivered by the project partners: e.g. participant registration, invoicing, pre- and post-course communication with participants (sending out surveys);
- the practical organisation of such training events, in collaboration with the actual trainers: arrange venue, catering, logistics and technical requirements, and share relevant information with external speakers.

Scope: this support is limited to training events offered by the project partners, which, after successful train-the-trainer events, can include trainers affiliated with other organisations.

WP1 Tasks

T1.1	Day-to-day project coordination	M1-M48
T1.2	Communication and outreach	M1-M48
T1.3	Training administration and logistics	M1-M48

WP1 Deliverables and milestones

	Title	Type	Results from	Due date
M1.1	Project office installed	Milestone	T1.1	M4
M1.2	Launch event of the Platform	Event	T1.2	M6
M1.3	Report on communication and training support for sustaining these functions in the Platform	Doc	T1.1	M36
M1.4	Event related to M4.4, ‘Transition from project structure to future governance’	Event	T1.2	M46

WP 2: Training programme

WP objective

The objective of this Work Package is to build and deliver a comprehensive national Training and Capacity building programme for research data professionals.

In this WP we develop and deliver a curriculum-based training programme that serves data professionals at universities, university medical centres, universities of applied sciences, and other research-performing organisations (RPO) in the Netherlands.

The aim of the programme is to enhance skills, knowledge, and abilities of research data professionals to fill the knowledge gap that is currently experienced; this programme should allow for life-long learning and be endorsed by the Dutch stakeholders. The training programme will be based on the competences that are needed (and described in UFO profiles); it will contain learning paths that connect the different modules, and as such is a core element of the Platform.

To accomplish such a programme, which will fulfil a coordinating role between our own learning materials and the training portfolio offered by external Training Providers (TP), we will work in close collaboration with those TPs as well as with RPOs and relevant professional communities in the Netherlands. We will do our best to engage all these stakeholders and try to commit them to our curriculum and training program, but we depend of course on their capability and willingness to collaborate.

We build on previous and ongoing work both in national and international context and adhere to emerging standards and best practices. We will continue the work that started in the NPOS FAIR Data Programme (as described in their end report 'Professionalising data stewardship'[8]). Internationally we will align with EOSC-related outputs (mainly from the EOSC-A Task Force on Data Stewardship, curricula and career paths[9] and the training curriculum for data stewardship developed by the Skills4EOSC project[10]) as well as with outputs of the relevant RDA Interest Groups[11,12]). Finally, in order to secure and expand the Dutch expertise base for future data professionals, and to ensure scalability, we set up and implement a Train-the-Trainer Programme, again building on previous expertise, both from partners in the current project and from external initiatives.

[8] Mijke Jetten, Marjan Grootveld, Annemie Mordant, Mascha Jansen, Margreet Bloemers, Margriet Miedema, & Celia W.G. van Gelder. (2021). Professionalising data stewardship in the Netherlands. Competences, training and education. Dutch roadmap towards national implementation of FAIR data stewardship (1.1). Zenodo. https://doi.org/10.5281/zenodo.4623713
[9] https://eosc.eu/advisory-groups/data-stewardship-curricula-and-career-paths
[10] https://www.skills4eosc.eu
[11] https://www.rd-alliance.org/groups/professionalising-data-stewardship-ig/
[12] https://www.rd-alliance.org/groups/education-and-training-handling-research-data/

The technical platform that is developed in WP3 will serve as a means for sharing and finding trainings and training materials, as well as a networking space for interaction with and among the participants in these courses.

All tasks in WP2 will be carried out in close collaboration with WP4, in particular WP4.3, to ensure that the training program can be continued after the project ends. WP2 will provide the information needed for the establishment of sustainability scenarios and will align the outputs accordingly. In addition, WP2 will align with WP4 about surveying the stakeholders. Surveys in WP2 will target the community, while WP4 will be surveying the institutional stakeholders in the light of developing the sustainability plan for the Platform.

Description of Work

For the development of a successful and robust training programme, we distinguish the following activities:

- Curriculum Design (Task 2.1)
  The establishment of a national curriculum for data professionals, an analysis of the Dutch portfolio of training materials and a digital badge for successful participation;
- Course development - filling the gaps (Task 2.2)
  Actualisation of existing training materials as well as design and development of new materials;
- Training delivery (Task 2.3)
  Training activities: courses, workshops;
- Train-the-Trainer programme (Task 2.4)
  The development and implementation of a train-the-trainer programme to sustain the knowledge capacity building for future data professionals.
- Community involvement - installing the feedback loop (Task 2.5)
  Activities to inform and involve the relevant Dutch communities in the development of the curriculum and the Platform

These activities have different timelines and dependencies and are described in the tasks below.

T2.1 Curriculum design

T2.1.1 National curriculum development

The first step towards a full-fledged training programme is the establishment of a national curriculum. This curriculum is a document that describes the activities related to the design, organisation and planning of training for data professionals working in a research performing organisation (RPO) in the Netherlands. The curriculum describes their profile, defines learning objectives, the content and formats of courses, the methods for assessment of learners and evaluation of programmes as well as arrangements for training other trainers.

The curriculum will build on currently available expertise and resources in the Netherlands, such as the Essentials 4 Data Support (E4DS) course, the Data Stewardship UFO profile, and work performed for the Competency Framework (2019) and Skills4EOSC describing competency profiles for data support staff[13,14,15]. The curriculum must be aligned with the function classification and corresponding goals and activities in the different (official) job profiles of Dutch RPOs.

To complement the expertise of the RDNL partners, we will hire an international expert in curriculum development to help establish the curriculum according to proven methods and to ensure international alignment for data stewardship training, by considering applicable training programmes and curricula that have been developed in other countries.

The curriculum will take into account different educational entry levels, different task areas and different domains. Aspirant data professionals can come from different backgrounds. Depending on the expertise that they bring, their daily practice and their career development, the curriculum should allow them to choose their own learning path. Learning paths aim to "structure, within simple visual workflows, the set of relevant training resources that trainees need to study in order to accomplish their learning objectives"[16]. The learning paths will be made tangible on the platform (WP 3).

Representatives from the different RPOs and other stakeholders will be involved in the curriculum development from the start to ensure that it covers the needs of the organisations and the envisioned career paths of the data professionals.

In the first instance, a core curriculum will be developed, allowing the building of the training programme for year 2. It will contain minimal viable learning paths. Over the four years of the establishment of the Platform, the curriculum and learning paths will be extended, and updated to reflect developments in the field of RDM. Stakeholders, training providers and connected data professional communities will review the curriculum at different stages. We will do our best to engage all stakeholders and try to commit them to our curriculum, but we depend of course on their capability and willingness to collaborate.

T2.1.2. Dutch RDM training portfolio in relation to the curriculum

An important ambition of the training platform is to align and assess trainings for (aspiring) data stewards that exist in The Netherlands and to reduce the fragmentation. We will reach out to

[13] Final report: Towards FAIR data steward as profession for the lifesciences. Report of a ZonMw funded collaborative approach built on existing expertise https://zenodo.org/doi/10.5281/zenodo.3471707
[14] NPOS / ELIXIR Data Steward Competencies, https://competency.ebi.ac.uk/framework/datasteward/1.0
[15] Skills4EOSC, https://www.skills4eosc.eu/
[16] https://tess.elixir-europe.org/about

current training providers (TPs), such as the organisers of the DCC Spring Trainings[17] and the Netherlands eScience Center[18], whose input and commitment is essential for the programme.

The first goal is to map the existing trainings, including the RDNL trainings, to relatively high-level components of the curriculum. This serves to identify to what extent a training fits the curriculum. By taking a “fitting” training, a data professional acquires competences as intended in the curriculum.

The method and lessons learned in ‘Professionalising data stewardship’[19] and (Van Zeeland et al.)[20] form the starting point for the mapping. Engagement is beneficial for TPs because the outcome of the mapping exercise offers them an opportunity to highlight that their training is in line with the Dutch curriculum.

The mapping serves as a gap analysis between ‘trainings needed for the curriculum’ and ‘available trainings’. New trainings or training components should fill these gaps, as described below in Task 2.2. and we will encourage external TPs to adapt their trainings to comply with the curriculum; practical support for external TPs is outside the scope of the project.

T2.1.3. Certification schema: the digital badge

Formal education is executed by accredited Higher Education Institutes (universities, UMCs) and typically ends with the student receiving a diploma, which ‘certifies’ that the student has successfully acquired specific knowledge and skills. For life-long learning and learning on the job a different format is needed. In this task, we will design and implement a badging scheme for having successfully taken training, to allow students to show their knowledge and skills to the outside world and support (future) employers to recognise these skills in career planning and hiring processes.

We will write a policy document on this rewarding system, outlining for which trainings, from different training providers, and under which circumstances digital certification will be issued and how we can guarantee its value. Among other certification schemes, we shall explore the Edubadges[21] service, which is a platform for digital certificates that is widely recognised at Dutch institutions. The participants' certification on successful completion of training shall be defined in the policy document as well as the final choice for a dedicated certification scheme. This task shall lead the content, the technical implementation will be in Task 3.3. Until the (digital) certification implementation is determined, we will continue to provide paper certificates

[17] https://lcrdm.nl/evenementen/dcc-spring-training-days-2024/
[18] https://www.esciencecenter.nl/
[19] Mijke Jetten, Marjan Grootveld, Annemie Mordant, Mascha Jansen, Margreet Bloemers, Margriet Miedema, & Celia W.G. van Gelder. (2021). Professionalising data stewardship in the Netherlands. Competences, training and education. Dutch roadmap towards national implementation of FAIR data stewardship (1.1). Zenodo. https://doi.org/10.5281/zenodo.4623713 Appendix 9
[20] Hilde van Zeeland; Jolien Scholten; Maarten van Bentum; Leon Osinski; Fieke Schoots, 2018, "Analysis of Dutch RDM courses (December 2017)", https://doi.org/10.34894/AQTUHD, DataverseNL, V1
[21] https://www.surf.nl/en/services/edubadges

to participants who successfully complete coursework, as is the current practice with RDNL training.

T2.2 Course development - filling the gaps

The assessment of existing trainings in Task 2.1.2 is leading to determine which parts of the training portfolio we need to leave as is, adapt, or create anew. For the creation of materials that we consider an essential part of the curriculum but are currently lacking, we intend to use the ABC-LD method[22] that is currently used in for instance the EU-funded PATTERN project[23] on open research.

For the inclusion of suitable existing training materials in the portfolio, we shall:

- Link to existing course material where appropriate.
- Update our own material to meet the needs of the curriculum.
- Create adaptations or additions, where current or third party material is not fully satisfactory.

To enable high quality delivery of Task 2.3, the external curriculum expert who will advise us in T2.1.1. will also assist in the implementation of the ABC-LD method. Importantly, the project team will make any materials, updated and newly created by the RDNL partners, available in both Dutch and English.

T2.3 Training Delivery

The actual delivery of training is of crucial importance to the project. Staff members at all consortium partners have extensive experience in training data professionals.

The training programme will build up in four years to train at least 200 participants (in person or online, according to the demand). In the first year, RDNL will continue to offer three regular Essentials 4 Data Support (E4DS) courses as well as one GDPR 4 Data Support (GDPR4DS) course. Materials for these courses are already available, both in English and in Dutch.

In year two, we will adjust courses to match the newly created curriculum. In year three, every data professional will be able to attend a course within three months after registration. The courses will alternate between English and Dutch. The courses will be open to participants from outside the Netherlands but 85 % of the available spots are reserved for data professionals working in the Netherlands.

We aim for the delivery of synchronous training (either in-person or online), as well as asynchronous i.e., self-paced training. Course materials from E4DS and GDPR4DS are already publicly available in the DANS learning management system (LMS) for self-paced study and for

[22] https://abc-ld.org/
[23] https://www.pattern-openresearch.eu/

re-use[24]. This approach allows training of data professionals who are unable to attend the training events. Elements that benefit from coaching, such as assignments with feedback and tracking participant progress for the sake of certification, can be implemented in both synchronous and asynchronous formats.

All courses are evaluated according to a standard feedback form, to enable comparison and bench-marking. We will use feedback from trainers as well as from participants and other, external training providers, to finetune training materials and align courses with the new curriculum. (See also Task 2.5 for evaluation activities.)

The administration and logistics needed to facilitate these trainings are part of Task 1.3.

T2.4 Develop and deliver a Train-the-Trainer programme

To ensure an effective curriculum and be able to respond to the growing demand from knowledge institutions that seek to expand their numbers of data professionals, a broad pool of trainers needs to be created and maintained. The growth of the current network of trainers is also crucial for the sustainability of our training efforts: we can maintain the platform and perform the training activities envisioned in the project with current expertise and capacity, but for the years to come, we need additional and sustainable extra training capacity to keep the ball rolling.

We will therefore develop and implement a train-the-trainer (TtT) model that provides data professionals with the required skills and knowledge to become trainers, who can teach other members of the community. The model is based on previous experience with TtT teaching at Health-RI, ELIXIR[25] and DANS and in line with international developments in RDM training. It includes a training programme with shared materials that equips these individuals with the necessary skills, methodologies, and knowledge to deliver meaningful training sessions to others. The TtT will take place in English. The TtT will be provided from year 2 onwards and will be aligned with the new curriculum.

T2.5 Community Involvement - installing the feedback loop

Community involvement with the needs and topics of data management training is an excellent vehicle for culture change in the context of our joint platform activities. It enables us to address the skills gap, the fragmentation of the available resources, and the changing landscape of data stewardship in a co-creative way (de Vries et al., 2020[26]). Community engagement helps converge existing training efforts, ensure ease of access to training resources, increase the platform's tool uptake, and scale data stewardship competencies and awareness.

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[24] E4DS in Dutch: https://danstraining.moodlecloud.com/course/view.php?id=15; E4DS in English: https://danstraining.moodlecloud.com/course/view.php?id=11; GDPR4DS in English: https://danstraining.moodlecloud.com/course/view.php?id=7; GDPR4DS in Dutch to made public soon.

[25] https://elixir-europe.org/platforms/training/train-the-trainer

[26] Melle de Vries, Ruben Kok, Maurice Bouwhuis, & Pieter Schipper. (2020). Eindrapport verkenning en optimalisering nationaal datalandschap. Open Science NL.https://www.openscience.nl/sites/open_science/files/media-files/npos_eindrapport_verkenning_en_optimalisering_nationaal_datalandschap.pdf

T2.5.1 Community profiles

There are a myriad of bottom-up efforts in the Netherlands surrounding data professionals that are currently thriving. It is crucial to leverage these communities when it comes to professionalising roles in research data management (Jetten et al., 2021[27]). In our project, we seek to build on the activities of existing communities and collaborate with them on further enhancement of the training portfolio (see also T2.5.2) and to ensure that participants of training courses will find their way to the communities relevant in their discipline. By acknowledging their importance and working with them in the curriculum, we reinforce the sense of community and commitment to training and the stimulation of lifelong learning.

We will do our best to engage the following communities in our Platform community efforts (although we can't fully control it as engagement should come from the respective communities as well):

- Data professional communities, e.g., Data Stewards Interest Group[28] ; LCRDM[29]; NL-RSE[30] and Research Software Training NL[31]; Dutch Network of Open Science Communities[32] ; UKB Working Group Research Data[33]; LDCCs and the DCC Implementation Network[34]; TDCCs[35]; DCC-PO[36]; PostdocNL[37]; Promovendi Netwerk Netherlands[38]; Young Science in Transition[39]; and the Community Managers Club
- Research infrastructures/service providers, e.g., DANS Data Stations communities[40]; 4TU.Research Data Community[41]; SURF communities[42]; ODISSEI community[43]; Clariah Community[44]; and Health-RI communities[45]

[27] Mijke Jetten, Marjan Grootveld, Annemie Mordant, Mascha Jansen, Margreet Bloemers, Margriet Miedema, & Celia W.G. van Gelder. (2021). Professionalising data stewardship in the Netherlands. Competences, training and education. Dutch roadmap towards national implementation of FAIR data stewardship (1.1). Zenodo. https://doi.org/10.5281/zenodo.4623713
[28] https://tdcc.nl/dsig/
[29] https://lcrdm.nl/
[30] https://nl-rse.org/
[31] https://researchsoftwaretraining.nl/
[32] https://osc-international.com/open-science-community-the-netherlands/
[33] https://ukb.nl/werkgroepen/research-data/
[34] https://lcrdm.nl/dcc/
[35] https://tdcc.nl/
[36] https://dcc-po.nl/
[37] https://www.postdocnl.com/
[38] https://hetpnn.nl/en/
[39] https://www.umcutrecht.nl/en/young-science-in-transition
[40] https://dans.knaw.nl/en/data-stations/
[41] https://community.data.4tu.nl/members/
[42] https://communities.surf.nl/onze-communities
[43] https://odissei-data.nl/en/community-management/
[44] https://www.clariah.nl/
[45] https://www.health-ri.nl/en

- International communities, e.g., ELIXIR(-NL)[46] & ELIXIR RDM Community[47]; RDA(-NL)[48] & RDA Professionalising Data Stewardship Interest Group[49]; and the EOSC Association Task Forces[50]

We will create and publish an overview of existing communities via the platform, to increase the discoverability of the many communities relevant to data professionals. This overview will help us tailor both our platform and our curriculum efforts effectively to the end users; it provides them with information on relevant communities to join with regard to training and data professionalisation, and it fosters collaboration between communities.

Our focus will be on identifying specific needs related to training, community building, and data stewardship as a profession and service. This includes roles, governance, ways of working and sustainability practices. We will base this on the CSCCE Community profiles approach[51], and build further on the national work that DSIG and LCRDM started in 2022 related to this.

T2.5.2 Organising community events

We will co-organise events with the aforementioned communities to collect input for and feedback on the curriculum and platform. This includes post-training-completion evaluations (e.g., surveys, focus groups), thus implementing a feedback loop for updating and extending the curriculum, training materials, learning paths and platform functionalities. This approach ensures that the training materials and the platform remain relevant and impactful.

We will actively reach out to communities for opportunities to gather input and garner enthusiasm for the platform during their own events. These existing events allow for data professionals to exchange best practices and shared challenges based upon the curriculum and platform activities. This will encourage peer-to-peer support and further stimulate the shared vision of lifelong learning for digital skills in research.

Additionally, the project partners will host an extra annual community event (4 in total), aimed at co-creation, collection of feedback, and exploring methods to enhance training materials and future training events.

WP2 Tasks

T2.1.1	National curriculum development (with a revision at a later stage)	M1-M12 and M30-M36

[46] https://www.health-ri.nl/en/elixir
[47] https://elixir-europe.org/communities/research-data-management
[48] https://www.rd-alliance.org/groups/rda-netherlands/
[49] https://www.rd-alliance.org/groups/professionalising-data-stewardship-ig/
[50] https://eosc.eu/eosc-task-forces/
[51] https://www.cscce.org/profiles/

T2.1.2.	Dutch RDM training portfolio in relation to the curriculum	M6-M16
T2.1.3.	Certification schema: the digital badge	M3-M48
T2.2	Course development (with a revision at a later stage)	M8-M16 and M33-M40
T2.3	Training delivery	M1-M48
T2.4	Develop and delivery of the Train-the-Trainer program	M13-M48
T2.5.1	Community profiles	M1-M24
T2.5.2	Co-organising community events	M6-M48

WP2 Deliverables and milestones

	Title	Type	Relates to	Due date
D2.1	Curriculum	Doc	T2.1.1	M12
D2.2	Policy for issuing digital badges	Doc	T2.1.3	M14
D2.3	Mapping of trainings to curriculum	Doc	T2.1.2	M16
D2.4	Train the Trainer courses - materials	Docs	T2.2, T2.4	M16
D2.5	Up-to-date versions of existing course materials	Docs	T2.2	Periodically
D2.6	Newly created course materials	Docs	T2.2	Periodically
M2.1	Community profiles overview published on website	Milestone	T2.5.1	M24
M2.2	Delivery of trainings for data professionals	Milestone	T2.3	Periodically in M4-M48
M2.3	Annual community events (4)	Events	T2.5.2	Periodically in M6-M48

M2.4	Final version of the curriculum	Doc	T2.1.1	M46

WP 3: Delivery of the Platform

Work Package Objective

The objective of this Work Package is to design, deliver, and maintain the technical components of the Platform that suit the needs of the data professional community.

In order for the Platform to connect the data professional community and provide lifelong learning opportunities, it needs a (digital) home, one that can provide access to learning materials, methods of knowledge sharing, opportunities for networking, and linking community portals and resources that, while plentiful, are scattered throughout the Dutch data landscape. Recent projects such as Taxila[52] aim to alleviate this scattering.

The Platform will be represented online via a website designed explicitly for the project, and as such will support all of the project outputs, reports, and information for users. It will be a point-of-contact for data professionals in the Dutch workforce and maintained for a long-term delivery.

From the technical perspective, the Platform back-end will consist of several technical components while abstracting this complexity to the user of the platform. The various components will work together behind the curtains and are designed to enable the other WPs to perform the respective non-technical tasks e.g., community engagement, announce training opportunities and provide access to the training material, information on learning paths, certification. On the front-end, i.e. the user-facing side of the Platform, the design and delivery aims to provide all necessary information while being intuitive to use, as well as to comply with the nationally and internationally recognised standards related to website delivery, security, and accessibility.

Description of Work

On the basis of aforementioned challenges, we distinguish the following activities:

- Website of the Platform (Task 3.1)
  The website for the Platform will be developed to display training information, the outputs of the project as well as associated infrastructures that benefit the endeavour
- Linking Taxila to the National Training Platform (Task 3.2)
  Integrating the Taxila tool is an important step to linking existing infrastructures to the Platform, as well as encouraging further innovation in the data support space
- Technical delivery of coursework certification (Task 3.3)
  Ensuring that data professionals who benefit from the envisioned curriculum of the Platform are able to gain recognition of their efforts
- Technical delivery of Learning Management System (LMS) (Task 3.4)
  Integrating and building upon the existing LMS infrastructure of Moodle[53] for the support and delivery of the curriculum of the National Training Platform
- Monitoring technical aspects of the Platform (Task 3.5)

[52] https://taxila.nl/
[53] https://www.moodlecloud.com/

Reporting to ensure the functionality and sustainability of the Platform and the support of its linked infrastructures

These activities have different timelines and dependencies, and are described in the tasks below.

T3.1 Website of the Platform

Figure 3.1 drafts the different technical components of the platform. From a user perspective, they will be visiting the website of the National training and community Platform. This website shall be designed to be the “one stop shop” to find and navigate through information. Having this website will hide the complexity of how the rest of the technical components (Tasks 3.2-3.5) in this WP are connected and interact in the backend to offer the users a seamless experience.

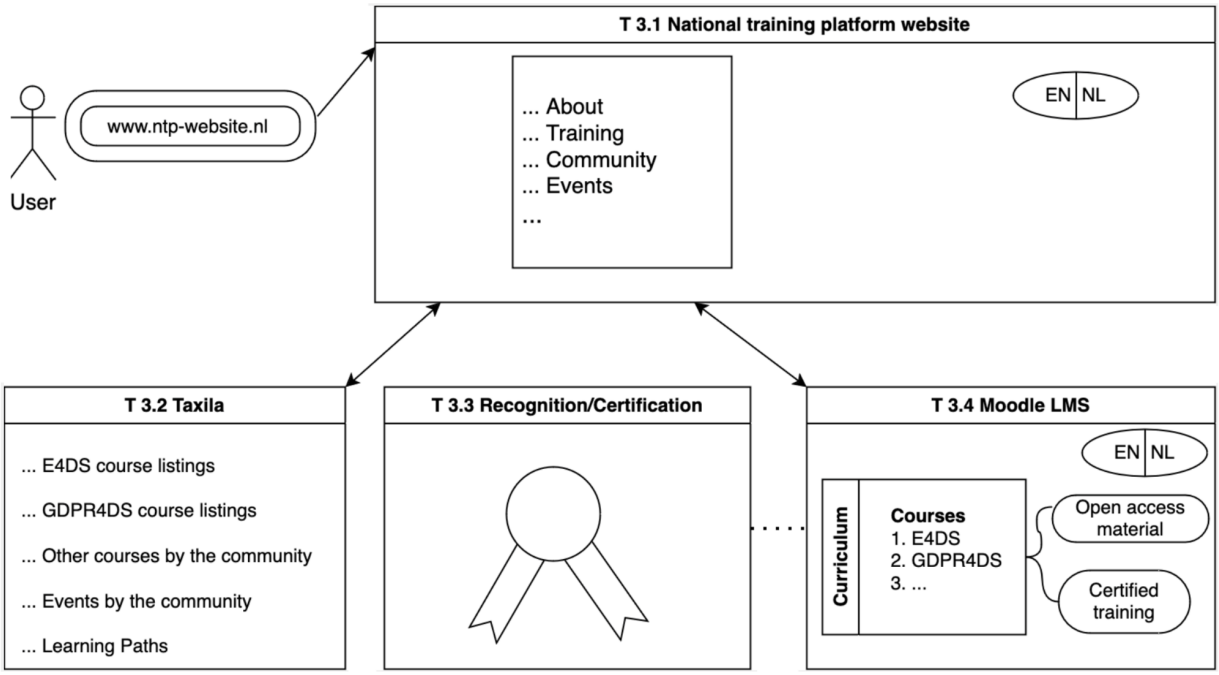

Figure 3.1: Components of the national training platform

This task, together with Task 1.2 Communication, will design and deliver the website between M1-M6. Thereafter, the majority of the effort will focus on ensuring the long-term maintenance and sustainability, and utility of the website through intentional design and stable delivery. This will be achieved by ensuring the website adheres to EU Web Accessibility Directive requirements[54] as well as developing a virtual space that can showcase the various outputs of the project. To illustrate the interaction between the respective WPs: website branding will be accomplished within Task 1.2, while content creation will be achieved within each respective WP and then delivered to Task 1.2 for publication on the website.

[54] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016L2102

T3.2 Linking Taxila to the Platform

In addition to the course offerings from within this project, the community should be able to discover additional courses, training, events, trainers and material offered by the community on research data management. Taxila[55] collects this information that a user can browse through and search, including getting alerts for relevant events. Events from 30 content providers are currently scraped, with plans to expand. The website of the Platform shall be scraped by Taxila, thus reflecting the platform's training events on Taxila. The website of the platform can also display the relevant data professional trainings from the community scraped by Taxila, thanks to a plug-in showing those events based on relevant keywords. The scraping by Taxila can be enabled shortly after the delivery of the National Training Platform website.

The rest of the effort in this Task will be put in the technical maintenance of scraping and developments on Taxila. For new scrapers, the process goes through a review by TeSS developers including approval. This is then deployed in a Taxila test environment, and once approved it is released in the Taxila production environment. Maintenance of existing scrapers entails continuous effort to align with changes on the providers' side, where a similar cycle of deployment, testing and approval is followed.

Additional efforts are also made in improving the scraping outcomes (e.g., AI augmented scraping to facilitate filtering and tagging the events targeted to a specific audience, including pillars for Open Science). This is in addition to encouraging partners to actively curate their own offer in Taxila. Both these efforts increase the matching of the 'relevance' of available trainings to the respective audience. The partners are also encouraged to make the training material available via Taxila (e.g., Zenodo, GitHub, etc that can be scraped by Taxila), hence enabling the material itself to also be made openly available.

In addition to the discovery of training and materials, Taxila is working towards offering Learning Paths[56] for various roles such as research software engineer, data steward, and data manager, where the Learning Path module is already available in Taxila. Within Taxila, Learning Paths, as structured in TeSS[57] (the training registry for the ELIXIR community), would be designed based on several learning resources, with the possibility of sharing resources across Learning Paths. This work will be done in collaboration with T2.1.1, where the content of the Learning Paths will be defined.

T3.3 Technical delivery of coursework certification

In coordination with Task 2.1.3, which determines the ways in which users who follow the curriculum can receive certification, Task 3.3 focuses on the technical delivery of said certification.

[55] https://taxila.nl/
[56] https://tess.elixir-europe.org/materials?q=learning+paths
[57] https://tess.elixir-europe.org/about

The first sub-task (T3.3.1), to take place during M1-M12, will be an initial investigation of the availability, cost, implementation, and sustainability of available services to determine the best option for the National Training Platform. These possibilities can include 1) Edubadges[58], as delivered through SURF as a service, 2) European Digital Credentials for Learning[59], via the European Commission's Europass system[60], and 3) Open Badges[61], as delivered through the international non-profit 1EdTech Consortium.

Following the initial investigation, the next sub-task (T3.3.2) will be responsible for the initial setup during M12-M16 in coordination with Task 2.1.3. The technical delivery of (digital) certification could begin within M24-M36 (Task 3.3.3), eventually mapping to more training within the curriculum as needed.

Finally, this task is also responsible for continuous maintenance of digital certification delivery, to take place from M16-M48, including establishing the long-term sustainability of the digital certification delivery in coordination with Task 3.5. Design of additional certification representations and their delivery as per the policy in Task 2.1.3 will be supported throughout the project.

T3.4 Technical delivery of Learning Management System (LMS)

An important element of the project is the delivery of high quality training and its associated material. A Learning Management System (LMS) based on Moodle is already in place at DANS[62], having onboarded the RDNL offering of Essentials 4 Data Support and GDPR 4 Data Support in both English and Dutch since late 2023.

Successful integration of the LMS used for course materials is key to the success of the Platform. After initial integration with the Platform, the remaining effort in this task will be for onboarding new courses and resolving technical issues. Branding of the LMS will be taken on in WP1, while content creation will be undertaken in WP2.

T3.5 Monitoring technical aspects of the Platform

Different infrastructure components together form the Platform. This Task will monitor the maintenance of the various components within the respective tasks in the WP3 during the duration of the project, with an end goal of making a sustainable plan for the future after the end of the project (technical aspects and the costs projected). Infrastructural elements such as the LMS for the training material should be considered in terms of the licensing of and distribution of materials, as well as any other components brought in during the lifetime of the project.

[58] https://www.surf.nl/diensten/edubadges
[59] https://europass.europa.eu/en/europass-tools/european-digital-credentials
[60] https://europass.europa.eu/en/stakeholders/education-and-training
[61] https://openbadges.org/
[62] https://danstraining.moodlecloud.com/

The report will outline the technical aspects of the website and linked components or interdependencies, and will continuously inform future sustainability-related outputs of the project, especially those of WP4.

WP3 Tasks

	Title	Period
T3.1	Website of the Platform	M1-M48
T3.2	Linking Taxila to the Platform	M1-M48
T3.3	Technical delivery of coursework certification	M16-M48
T3.4	Technical delivery of Learning Management System (LMS)	M1-M48
T3.5	Monitoring technical aspects of the Platform	M6-M48

WP3 Deliverables and Milestones

	Title	Type	Results from	Due date
D3.1	Report on the technical aspects of the National Training Platform website	Doc	T3.5	M36
M3.1	National website, initial delivery	Website	T3.1	M6
M3.2	Integration of LMS system for courses in Platform	Website	T.3.4, T.3.1	M6
M3.3	Scraping of Platform website by Taxila	Website	T3.2	M8
M3.4	Initial setup of the technical process of certification	Milestone	T3.3	M16
M3.5	Delivery of coursework certification	Milestone	T3.3	M24
M3.6	Learning Paths in Taxila	Website	T3.2	M32

WP4: Platform governance and sustainability

WP objective

The objective of this Work Package is to implement a broad advisory Project Stakeholder Forum as well as the final organisation and governance structure for the Platform to secure the post-project sustainability of the Platform and all project outcomes. We will involve stakeholders throughout the project to explore and develop structures that ensure the embedding of the Platform in the national research and Open Science landscape, and enable the platform to continue beyond the project lifetime. We have no control over the willingness of the stakeholders to collaborate or their commitment. However, this Work Package aims to engage all stakeholders and seek their commitment on a best effort basis.

Description of Work

For the development of a committed post-project governance body which sustains the Platform, we distinguish the following activities:

- Establishing a Project Stakeholder Forum (Task 4.1)
  Involve relevant stakeholders in the open science and data landscape in the Platform
- Developing Platform Organisation and Governance Options (Task 4.2)
  Draft and select scenarios for the post-project governance structure, together with the stakeholders
- Developing Platform Sustainability Options (Task 4.3)
  Draft what exploitation of the Platform looks like during the project and consider different revenue models
- Governance Transition and Implementation (Task 4.4)
  With the relevant stakeholders, act on the selected scenarios and models, and implement the post-project governance structure

These activities have different timelines and dependencies and are described in the tasks below.

T4.1 Establishing and maintaining a Project Stakeholder Forum

In this Work Package we will firstly establish a Project Stakeholder Forum as a means of engaging with key stakeholders and communities. As outlined in Figure 4.1, this Forum will consist of representatives of the OSNL consortium partners (those involved in the Bestuurlijk Overleg OSNL[63]), communities of data professionals and data stewards (LCRDM[64], Local Digital Competence Centres, DCC-PO[65], Data Steward Interest Group[66]) and the Thematic Digital

[63] https://www.openscience.nl/en/the-assignment-of-open-science-nl
[64] https://lcrdm.nl
[65] https://dcc-po.nl
[66] https://tdcc.nl/dsig/

Competence Centres[67]. It is anticipated that the Project Stakeholder Forum will meet at least once per year during the project.

The rationale for a broad Project Stakeholder Forum is that it will be essential to involve all organisations who may affect and be affected by the decisions made in the project. The establishment of the Forum will therefore be on our agenda from the initial stages of the project. The stakeholders in the Forum are influential in the broader field of (open) science, academia in general, and specifically communities of data stewardship. As project outcomes could affect these organisations in the long term, we seek to engage these stakeholders, and in particular the LDCCs and TDCCs, through the Forum in our efforts of advocacy towards the academic community.

The Project Stakeholder Forum will have opportunities to advise on various components that are part of the Platform:

- the curriculum that is offered;
- the community support around the platform;
- the functionality of the platform;
- the process of adaptation and embedding of the competency framework;
- the future sustainability of the platform (see T4.3).

The working of this Project Stakeholder Forum will be evaluated at Month 36 to determine how it can participate in the future governance of the platform.

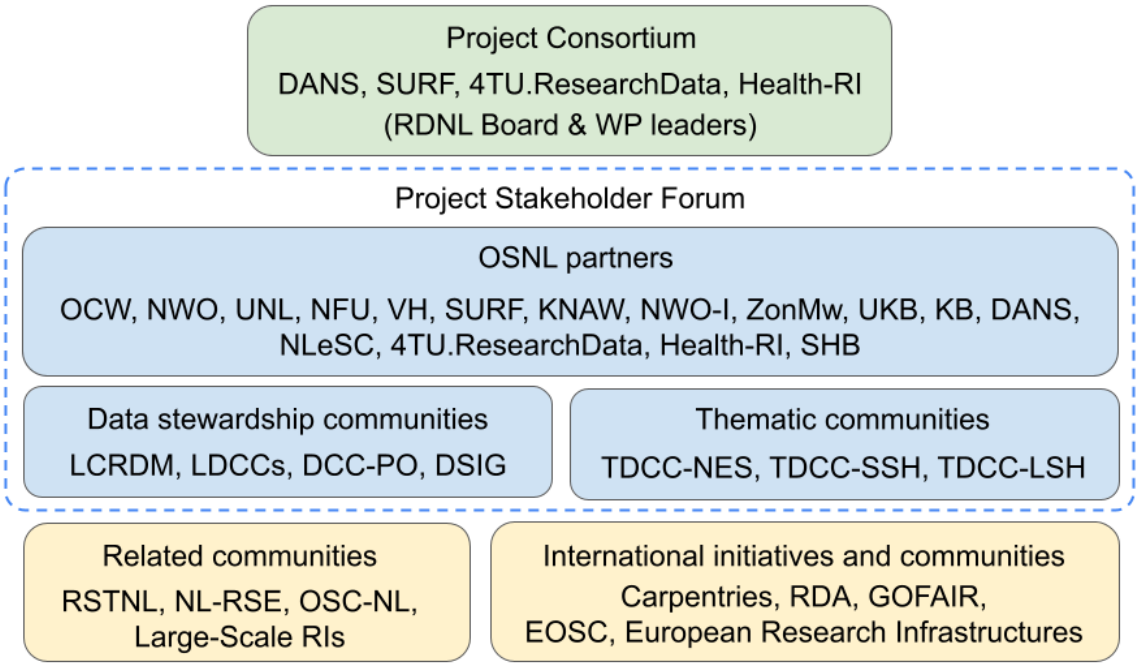

Figure 4.1: Stakeholder groupings including the Project Stakeholder Forum

[67] https://tdcc.nl

Through a Stakeholder Engagement Plan, in collaboration with the other WPs, we will further refine roles according to project phases and stakeholder groups, and outline channels and opportunities for engagement by these groups throughout the project. A RASCI matrix has been developed (see Figure 4.2), which shows the engagement and interaction with the groups identified and outlined in Figure 4.1, including the Project Stakeholder Forum.

STATUS	PHASE	Penvoerder	RDNL Board	Work Package leaders	Project office	Project Stakeholder Forum	OSNL	Other communities
Complete	Project initial phase (before office)							
In Progress	Project organisation	R	A	R			I	
Approved	Training program	R	I	R		C		I
Not Started	Technical platform	R	I	R		C		I
	Governance and sustainability	R	C	R		C	I	I
	Overall project plan	R	A	R			C	I
	Project running with platform operational							
	Project organisation	R	C			I	I	
	Training program	A	C	R	S	C		I
	Technical platform	A	C	R	S	C		I
	Governance and sustainability	A	C	R	S	C	I	I
	Overall project plan	R	A	R	S		C	

Figure 4.2: RASCI matrix (Responsible, Accountable, Supporting, Consulted and Informed)

T4.2 Developing Platform Organisation and Governance Options

The RDNL partners will set up and run the Platform as a consortium during the project phase. As shown in Figure 4.1, the Project Consortium consists of two levels: an RDNL Board for strategic decision-making and collaborating on the basis of a collaboration agreement, and WP leaders with operational responsibilities. In order for the platform to be carried forward by all key stakeholders in the field of data driven research and Open Science, this task will provide scenarios for its future-proof organisation and governance beyond the project lifetime.

It is anticipated that the Platform will continue working under a renewed organisational and governance structure after the project; where agreements can be formulated between committed stakeholders on how to distribute workload and roles and how to go about the partnership itself to ensure a sustainable Platform.

There are several possible scenarios to guarantee an organisation and governance model through which key stakeholders as well as community needs can drive the Platform. These scenarios will be worked out in this task during the first 18 months of the project. Next, a SWOT

analysis will be conducted on the scenarios that remain plausible options. This will result in a list of recommendations to foster the opportunities and strengths of the eventually chosen scenario and to mitigate potential risks and weaknesses. Drawing on this work, a Platform Governance Options Paper will describe agreed governance principles, summarise the SWOT analysis of potential governance models and outline recommendations and steps for implementation. This paper will be put forward for evaluation by key stakeholders and will be discussed in the Project Stakeholder Forum during the third year of the project. This process will result in an informed consensus decision at the end of year 3 on the specific governance model to transition to and implement by the end of the project (see T4.4).

T4.3 Developing Platform Sustainability Options

Parallel to the design of future organisation and governance options in Task 4.2, this Task addresses the need for a sustainable business model to be implemented on transition of the Platform to the phase beyond the project lifetime. This is an essential part of the WP and it will be necessary for all key stakeholders to commit to and be involved in sustaining the Platform.

Building on ten years of experience in the RDNL training programme, and taking stock of the initial phase of the training programme implemented during the project, a first generation exploitation overview of the Platform will be available by Month 20. The exploitation overview will cover: 1) all costs associated with the Platform (including organisation, development of the curriculum, training, technical requirements); 2) the experienced use of the platform and acquired feedback of trainees; 3) IP-related aspects related to platform content and technology; and 4) revenue streams created through course fees. A continuous feedback loop with the respective Work Packages shall be used to gather necessary input on the above listed activities. The exploitation overview will be shared with the Project Stakeholder Forum by the end of year 2 to kick-start the engagement process with key stakeholders to design a future-proof business model.

Based on the first exploitation overview and input of the Project Stakeholder Forum, scenarios will be developed for a Platform Sustainability Plan. Apart from scenarios to optimise the value for individual organisations, several revenue models will be explored, using the running Platform as a benchmark and comparing it to other training programmes in the field, including graduate/research schools and commercial platforms. We will also involve international examples, e.g. in the framework of European Research Infrastructures.

Sustainability scenarios will be shared and discussed with individual stakeholders and the Project Stakeholder Forum during the third year of the project. A field survey will be performed to address the future need for data stewardship training and willingness to contribute to covering the associated costs at the level of individual trainees and organisations. The survey will aim to project the operation of the first years of the Platform after the project.

Several options to generate income to cover Platform costs will be worked out, including fee for service models, subscription model for organisations, and other forms of paid membership. Along with the cost prognosis and the results of the field survey, income models of at least two

potential sustainability scenarios will be put to the Project Stakeholder Forum (early year 4). The Forum will be asked to select the most promising model for the final Platform Sustainability Plan (D4.3). In Task 4.4, this model will be put to all stakeholders to acquire final commitment of organisations and agreement to collectively implement the business model under the final Platform organisation and governance model.

T4.4 Governance Transition and Implementation

The outcomes and recommendations from Tasks 4.2 and 4.3 will be direct input for a Transition Plan to ensure that governance and sustainability plans will be in place to allow the platform to continue beyond the project lifetime. Part of that Transition Plan, executed in year 4, will be a renewed consortium agreement, and the plan will be further inspired by a decharge document and lessons learned. Relevant for the transition are of course the experiences during the project with the RDNL Board, WP leaders and the Project Stakeholder Forum. The RDNL Board will be accountable for a suitable governance to be in place before the end of the project. Through the WP4 tasks outlined above, the Project Stakeholder Forum will have been consulted on preferred scenario(s) and we anticipate that organisations in the Forum will play a role in the post-project governance, co-ownership of the outcomes, and sustainability of the Platform. Working this way, the chosen governance model can be implemented before the end of the project.

WP4 Tasks

T4.1	Establishing and maintaining a Project Stakeholder Forum	M1-M42
T4.2	Developing Platform Organisation and Governance Options	M6-M42
T4.3	Developing Platform Sustainability Options	M6-M42
T4.4	Governance Transition and Implementation	M36-M48

WP4 Deliverables and milestones

	Title	Type	Results from	Due date
D4.1	Stakeholder Engagement Plan	Document	T4.1	M12
D4.2	Platform Governance Options Paper	Document	T4.2	M30

D4.3	Platform Sustainability Plan	Document	T4.3	M36
M4.1	Project Stakeholder Forum	Milestone	T4.1	M12
M4.2	First generation exploitation overview	Milestone	T4.3	M20
M4.3	Governance model chosen and agreed	Milestone	T4.2	M36
M4.4	Transition from project structure to future governance	Milestone	T4.4	M45
M4.5	Annual stakeholder events (4)	Event	T4.1, T4.4	Periodically

1.5. Detailed planning

All project deliverables and milestones, both types in chronological order:

		Title	Type	Results from	Due date
1	D2.1	Curriculum	Document	T2.1.1	M12
2	D4.1	Stakeholder Engagement Plan	Document	T4.1	M12
3	D2.2	Policy for issuing digital badges	Document	T2.1.3	M14
4	D2.3	Mapping of trainings to curriculum	Document	T2.1.2	M16
5	D2.4	Train the Trainer courses - materials	Documents	T2.2, T2.4	M16
6	D4.2	Platform Governance Options Paper	Document	T4.2	M30
7	D3.1	Report on the technical aspects of the National Training Platform website	Document	T3.5	M36
8	D4.3	Platform Sustainability Plan	Document	T4.3	M36
9	D2.5	Up-to-date versions of existing course materials	Docs	T2.2	Periodically
10	D2.6	Newly created course materials	Docs	T2.2	Periodically
11	M1.1	Project office installed	Milestone	T1.1	M4
12	M1.2	Launch event of the Platform	Event	T1.2	M6
13	M3.1	National website, initial delivery	Website	T3.1	M6

14	M3.2	Integration of LMS system for courses in Platform	Website	T.3.4, T.3.1	M6
15	M3.3	Scraping of Platform website by Taxila	Website	T3.2	M8
16	M3.4	Initial setup of the technical process of certification	Milestone	T3.3	M16
17	M4.1	Project Stakeholder Forum	Milestone	T4.1	M12
18	M4.2	First generation exploitation overview	Milestone	T4.3	M20
19	M2.1	Community profiles overview published on website	Milestone	T2.5.1	M24
20	M3.5	Delivery of coursework certification	Milestone	T3.3	M24
21	M3.6	Learning Paths in Taxila	Website	T3.2	M32
22	M1.3	Report on communication and training support for sustaining these functions in the Platform	Doc	T1.1	M36
23	M4.3	Governance model chosen and agreed	Milestone	T4.2	M36
24	M2.2	Delivery of trainings for data professionals	Milestone	T2.3	Periodically in M4-M48
25	M2.3	Annual community events (4)	Events	T2.5.2	Periodically in M6-M48
26	M4.5	Annual stakeholder events (4)	Event	T4.1, T4.4	Periodically
27	M4.4	Transition from project structure to future governance	Milestone	T4.4	M45
28	M1.4	Event related to M4.4, ‘Transition from project structure to future governance’	Event	T1.2	M46
29	M2.4	Final version of the curriculum	Doc	T2.1.1	M46

1.6. Publication and IP

The Opdrachtnemer ensures publication of the project output unless this does not serve any public purpose. We commit to the principle that all output created during the project, such as the curriculum and training materials developed by the project partners, will be published with an open access license and that these, or copies, will be deposited in a public, trustworthy repository. By using copies, the repository version can be stable for the long term, whereas the other version may be open for adaptation. Whether all versions of all training materials will be deposited in a repository, will be decided during the project.

With respect to intellectual property (IP):

- All IP rights on the training materials and curriculum (in general the content consisting of pre-existing materials and the output) remain vested in the original IP holder and are not transferred to NWO.
- No IP rights on the platform/website itself through which the content is made available are transferred to NWO.

1.7. Privacy and security

Managing confidential information:
Any information disclosed as confidential, or identified as such, will be considered confidential information. DANS will not use confidential information otherwise than for the purpose for which it was disclosed and will limit access to this information accordingly. All DANS employees sign a confidentiality agreement. The obligation to treat confidential information appropriately will be included in the collaboration agreement between the project partners.

Managing personal data:
In the project personal data will be protected according to the General Data Protection Regulation (GDPR). For the project, the project partners have the intention to be joint controllers, where the project partners jointly take responsibility for the processing of personal data and where each partner individually will have responsibility to process personal data accordingly for the processes under its control. This arrangement will be worked out in detail and included in the project agreement between the project partners. It will also include the agreements that will apply, where or if joint controller responsibility is not legally possible. And, if applicable, the role of NWO.

The following types of data processing will be the main types of processing during the project, as now foreseen:

- Development and use of an online training platform that makes use of user accounts
- (Contact) information from trainees: for providing training, collecting feedback
- (Contact) information from trainers and guest lecturers: for organising and delivering training.
- Making use of an external platform for issuing digital learning certificates (or similar) to trainees. Processing of personal data for this purpose will be based on consent.

Project partners will document the types of processing taking place for the project together with the data protection measures taken and will periodically, jointly, assess this in order to ensure that the overview stays up to date and data protection measures are appropriate. This arrangement will be included in the collaboration agreement between the project partners.

Managing information security:
Information security management by the project partners will follow the partners' internal security settings. For coordinating partner DANS the Information Security Policy is based on

SURF's information security policy model, following the main principles guide on information security:

Risk based: Measures are based on the potential security risks of our information, processes and IT facilities.
Everyone: Everyone is and feels responsible for the proper and secure use of resources and authority.
Security by Design: From the start, information security is an integral part of every project or change regarding information, processes and IT facilities.
Security by Default: Users only have access to information and IT facilities that they need for their work. Opening up information is a conscious choice.
Framework: The Information Security policy provides a framework for testing (future) measures in information security against established security principles, best practices and standards. It also provides a framework for assigning duties, powers and responsibilities.
Standards: The "SURF Standards Framework for Information Security Higher Education" (IBHO) is at the base of the information security system. The IBHO is based on the standards set forth in the ISO-27000 series. The NBA model ("Volwassenheidsmodel Informatiebeveiliging" of the Royal Netherlands Institute of Chartered Accountants) is used as the assessment framework.
Maturity: NBA describes a standard for the maturity of Information Security according to the Capability Maturity Model (CMM). DANS strives for a maturity level 3 according to the SURF guidelines.
Measures: DANS takes measures based on the internationally established ISO-27002 standard. The 'SURF Baseline Information Security Higher Education' and other best practices in the SURF community are used as a starting point.

1.8. Risks and mitigation measures

Description of risk	**WP**	**Proposed risk-mitigation measures**
Outputs not matching expectations of key communities or RPOs (Likelihood: Low; Severity: High)	All WPs	Project will organise consultation meetings and feedback mechanisms.
Alignment difficulties with training providers external to the project (Likelihood: Medium; Severity: Medium)	WP2	Project partners have direct contact with the key communities and all TDCCs, which help to streamline contacts if needed.
Not enough trainers to offer the planned trainings (Likelihood: Medium; Severity: Medium)	WP2	Broadening the RDNL training to a national platform is a key opportunity to invite and train trainers from other organisations, as planned in T2.4.

Developments in further professionalisation of data stewardship can not sufficiently be implemented in Data Steward UFO profiles for reasons of ownership (Likelihood: Medium; Severity: Medium)	WP2	Use WP4 to reach out to stakeholders and gain influence in the process of decision making related to the UFO profiles
Changes in the Data Steward UFO profiles during project lifetime (Likelihood: Medium; Severity: Low)	WP2	Project will consider this and decide on the need for and feasibility of changes in the process of reviewing the curriculum in year 3.
Adoption of job profile systems at UMCs and Universities for Applied Sciences. (Likelihood: Medium; Severity: Medium)	WP2	Project will consider this and decide on the need for and feasibility of changes in the process of reviewing the curriculum in year 3.
IP issues prevent the project from using an existing application in the context of the Platform (Likelihood: Low; Severity: Medium)	WP3	Project partners have direct contact with the most relevant applications.
The Platform is unmanaged after the project concludes (Likelihood: Small; Severity: High)	WP4	Project will develop and deliver a long-term sustainability plan in coordination with key stakeholders
Not enough financial commitment from stakeholders in or after year 4 to sustain the Platform in its entirety (Likelihood: Small; Severity: High)	WP4	The RDNL consortium commits to a sustainable platform after the project, since this is the explicit obligation in the working program and the ‘offerteaanvraag’. This is, however, a most challenging deliverable, as sustainable funding relies on funding commitment by partners outside the initial consortium. If the desired sustainable financial model cannot be established, the scope and volume of trainings that can be sustained, as well as functionality of the platform, will be reduced to a minimal viable platform. This is only a last-resort scenario. The consortium will involve the many stakeholders (through the Stakeholder Forum) that benefit from a good and versatile national training platform, from the early days on. In doing so, and catering to the needs of data stewards

		and research data communities to the best of our abilities, we increase the likelihood of a sustainable funding model that includes financial and possibly in-kind contributions from other stakeholders: after all, by collaborating, we work in a more cost-efficient way than if all stakeholders had to organise their own training activities. This way we increase the chance that we deliver more than a minimal viable training platform.
Losing key staff or skills (Likelihood: Medium; Severity: Low)	All WPs	Partners will inform the RDNL consortium in good time, giving opportunities to transfer work to other partners or, if necessary, seek external input.

1.9. Sustainability of the platform

Work Package 4, more specifically Task 4.3, describes how the project addresses the need - and the wish - to make the Platform self-sustaining beyond the project's lifetime and to assure the commitment and involvement of national stakeholders to secure continued training of data professionals across the Dutch research field.