Initiatieven onderzoekondersteuning hogescholen

Werkgroep SHB Onderzoeksondersteuning

In samenwerking met DCC-Prakijkgericht Onderzoek en project NPOS-F

19 maart 2021

	Programma
11.00	Opening door Bolinda Hoeksema (Hogeschool Utrecht en voorzitter SHB werkgroep Onderzoeksondersteuning)
11.10	Digital Competence Center voor Praktijkgericht Onderzoek Spreker: Silvia Kempers, projectleider DCC-PO (Saxion)
11.45	NPOS Project Functieprofielen: Professionaliseren van datastewardship: competenties, training en educatie Spreker: Mijke Jetten, community manager datastewardship (DTL)
12.05	Hbo-functieprofielen datasteward Spreker: Renate Mattiszik, data-librarian (Saxion) en lid van de SHB-werkgroep Onderzoeksondersteuning
12.20	Mogelijkheid tot het stellen van vragen over datastewardship Moderator Linda Hurkmans (SHB-Secretariaat)
12.30	Afsluiting Themabijeenkomst door Bolinda Hoeksema

SHB werkgroep Onderzoeksondersteuning

- Afgevaardigd: Hanze hogeschool, HvA, HAN, Hogeschool Leiden, Saxion en Hogeschool Utrecht
- 4 vergaderingen per jaar
- Enquête waar loop je bij onderzoeksondersteuning tegen aan?
- Samen met de SHB werkgroep Licenties adviseren op het terrein van o.a. Elsevier-deal i.s.m. Vereniging Hogescholen
- Deelname DCC-PO en verbinding zoeken hoe de SHB-leden kunnen aansluiten
- Thema-sessies organiseren en info op website
- Ontwikkelen animatiefilmpje over het onderwerp FAIR, mogelijk i.s.m. met DCC

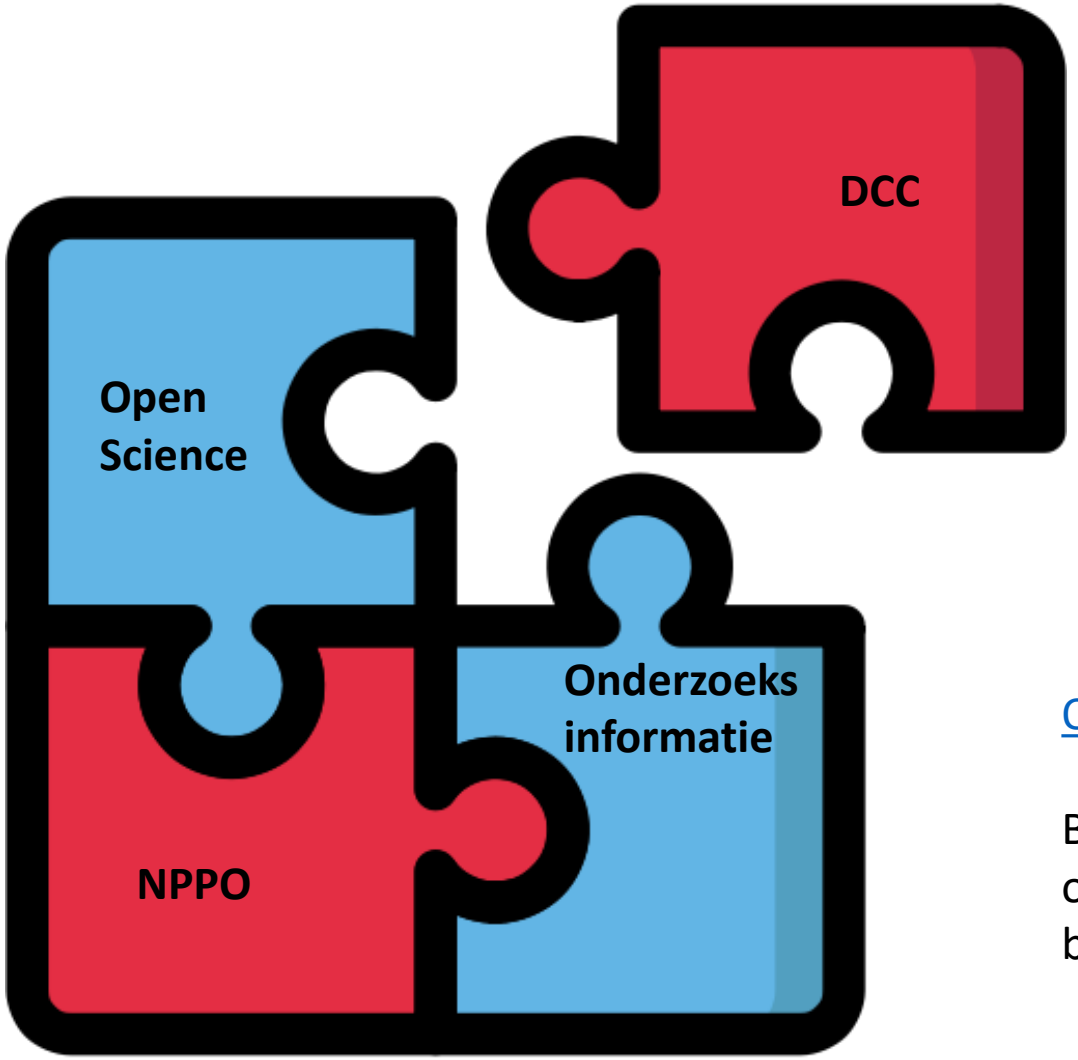
Ontwikkelingen

- Meer eisen van financiers m.b.t open access en open science
- Gedragscode Wetenschappelijke Integriteit
- Brancheprotocol Kwaliteitszorg Onderzoek (BKO)
- AVG
- Vereist professionalisering onderzoeksupport

In DCC samen Open Science ambities realiseren

SURF
Pilots
Gebruikersgroep RD
Versterkingsagenda
LIOM

Zichtbaar & vindbaar & beschikbaar maken van resultaten van praktijkgericht onderzoek via NPPO

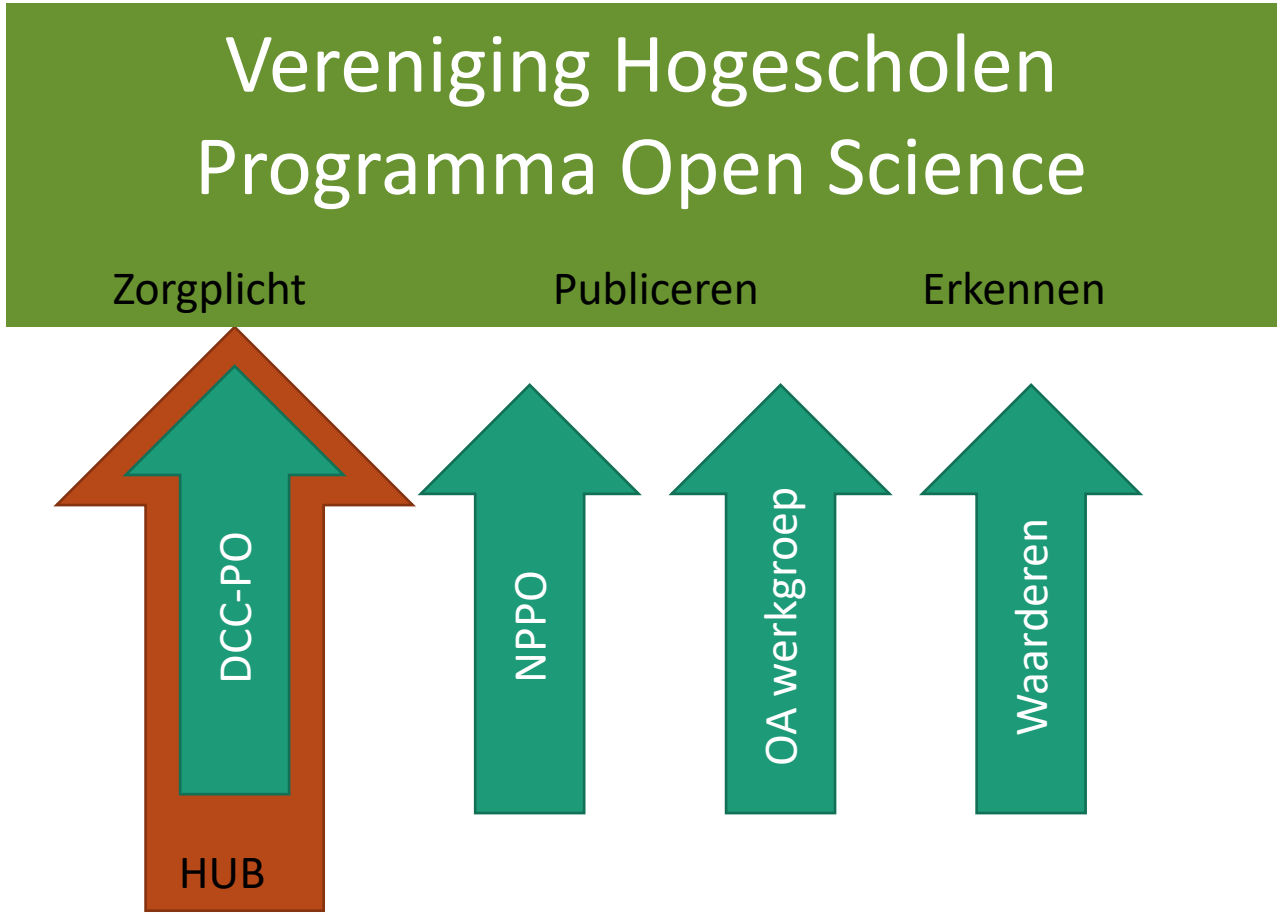


Samen in DCC kennis delen & ontwikkelen om praktijkgericht onderzoek te ondersteunen

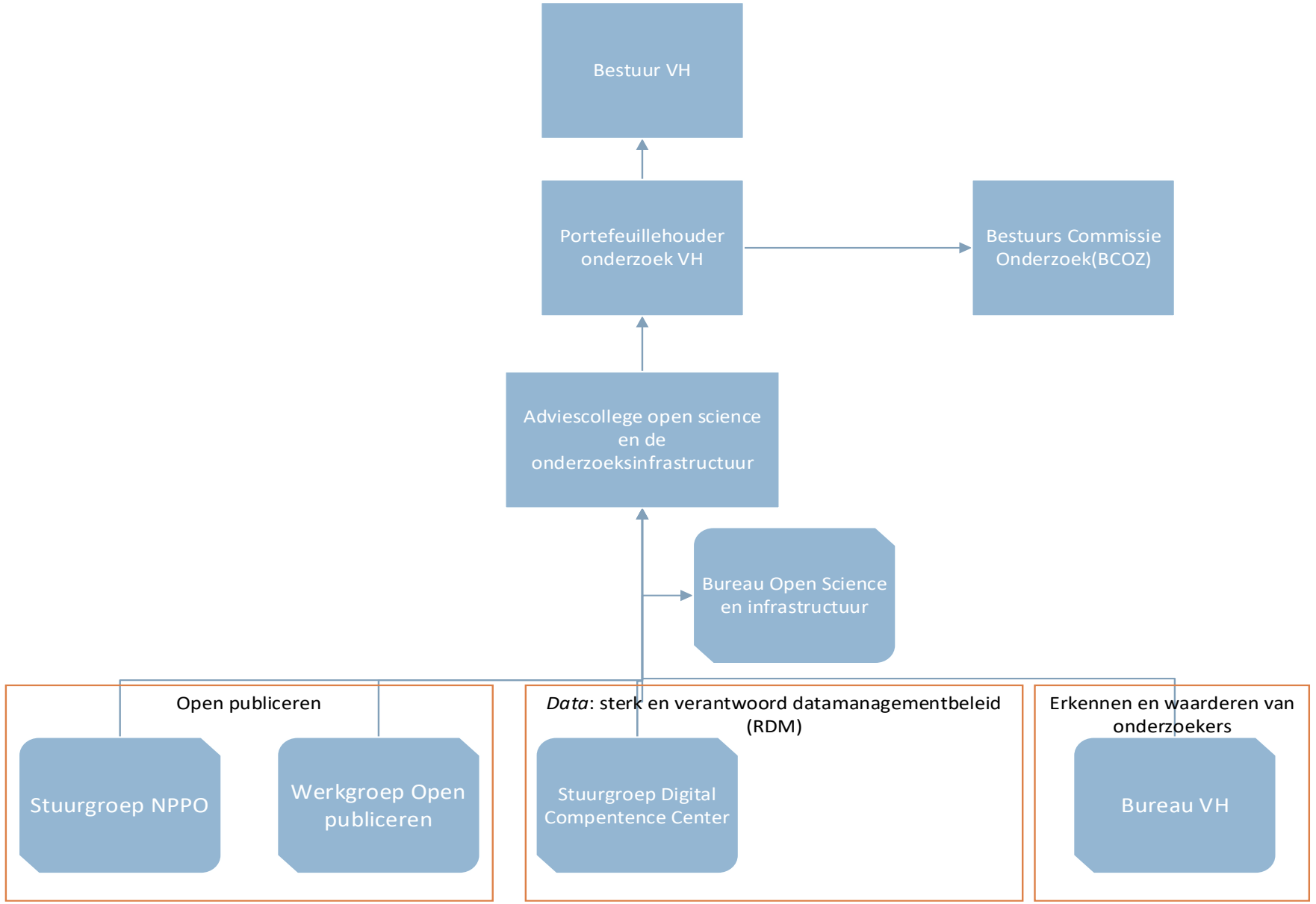
LCRDM
Implementatienetwerk
DCC
Netwerkdagen
Taakgroepen

Onderzoeksinformatie voedt het NPPO

Bij interesse: Samen aanschaffen of ontwikkelen van (ontbrekende) bronsystemen?


Vereniging Hogescholen
Programma Open Science
Zorgplicht
Publiceren
Erkennen
DCC-PO
HUB
NPPO
OA werkgroep
Waarderen

Governance


Bestuur VH
Portefeuillehouder onderzoek VH
Bestuurs Commissie Onderzoek(BCOZ)
Adviescollege open science en de onderzoeksinfrastructuur
Bureau Open Science en infrastructuur
Open publiceren
Stuurgroep NPPO
Werkgroep Open publiceren
Data: sterk en verantwoord datamanagementbeleid (RDM)
Stuurgroep Digital Compentence Center
Erkennen en waarderen van onderzoekers
Bureau VH

Vragen

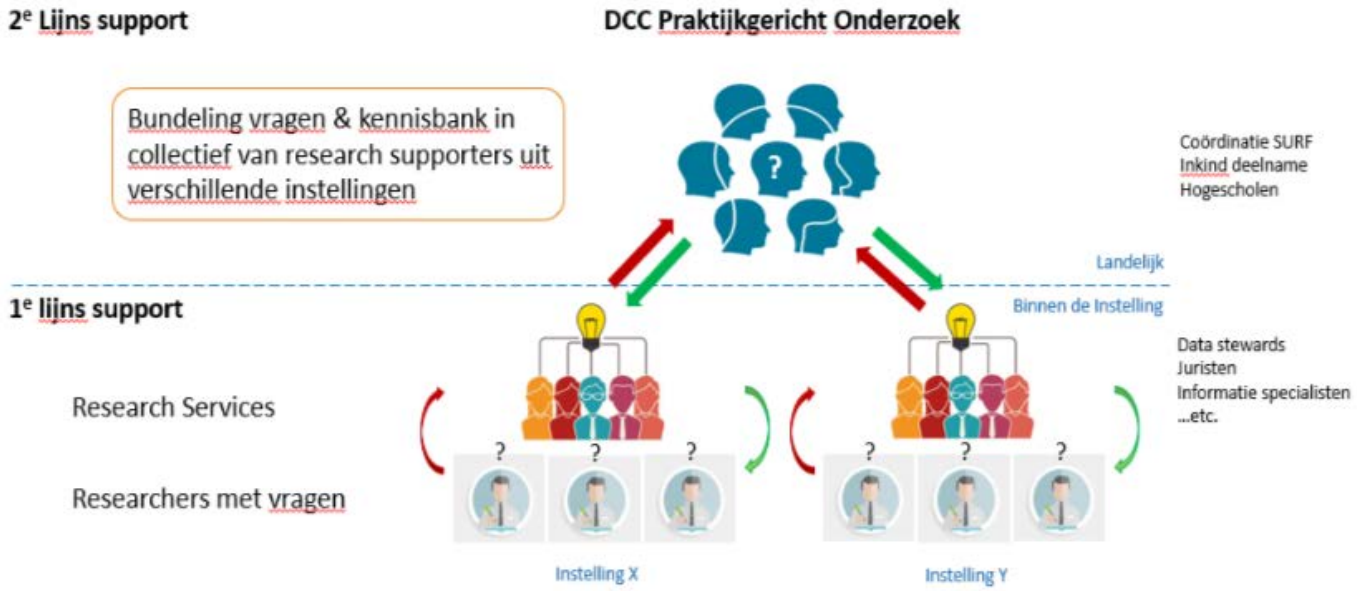
Digital Competence Center voor praktijkgericht onderzoek (DCC-PO)

Silvia Kempers (Saxion)

Projectmanager DCC-PO

Wat gaan we doen?

- Het coördineren en professionaliseren van datastewardship voor praktijkgericht onderzoek op landelijk niveau.
- Een eerste stap zetten naar een duurzaam landelijke kennis- en adviescentrum (Research Support HUB) door het bundelen van krachten rondom research datamanagement, onderzoeksoftware en infrastructuur.
- Het bevorderen en faciliteren van data-intensief onderzoek in het hbo (zoals big data/IoT/machine learning/high performance computer etc).



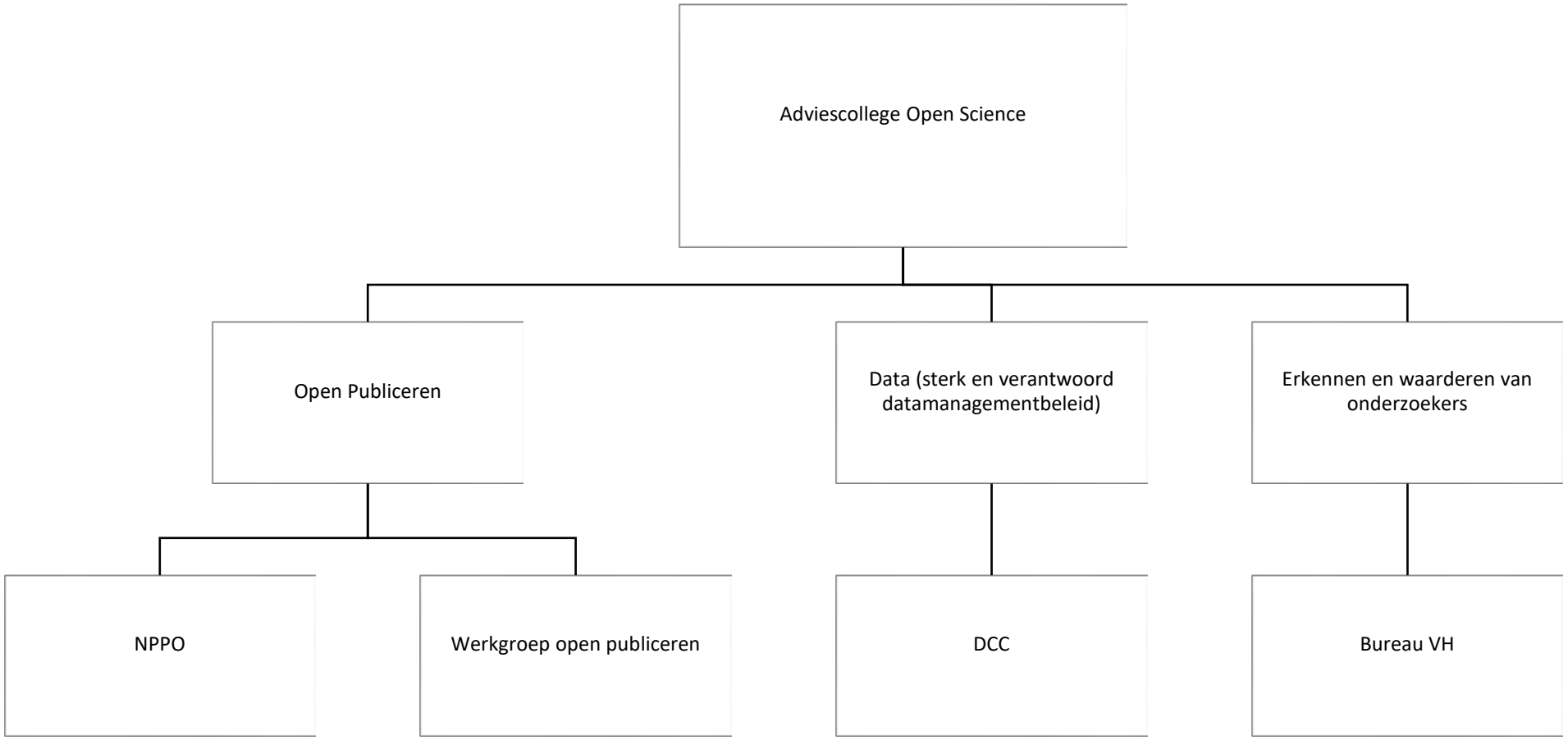
Waarom?

- Om de Open Science ambities voor praktijkgericht onderzoek te realiseren is sterk en verantwoord research datamanagementbeleid (RDM) van belang. In het DCC gaan we daarom samen aan de slag om RDM, FAIR data en data-intensief onderzoek op hogescholen verder te faciliteren.
- Dus; het versterken en professionaliseren van onderzoeksondersteuning en onderzoeksinfrastructuur om zo het onderzoek op de hogescholen zo optimaal mogelijk te faciliteren

Van en voor hogescholen!

- Het is een vervolg op de Versterkingsagenda Praktijkgericht Onderzoek van waaruit hogescholen samen werkten om ondersteuning van praktijkgericht onderzoek samen naar een hoger plan te tillen
- Veel hogescholen zijn te klein in omvang om op alle gebieden van onderzoeksondersteuning voldoende expertise zelf in huis te hebben, vandaar dat we samen de krachten bundelen.
- Het project is voor en van onderzoeksondersteuners. Het doel is te profiteren van elkaars kennis en expertises en elkaar makkelijker te vinden, zodat onderzoekers zo goed mogelijk gefaciliteerd kunnen worden.

DCC in relatie tot Open Science

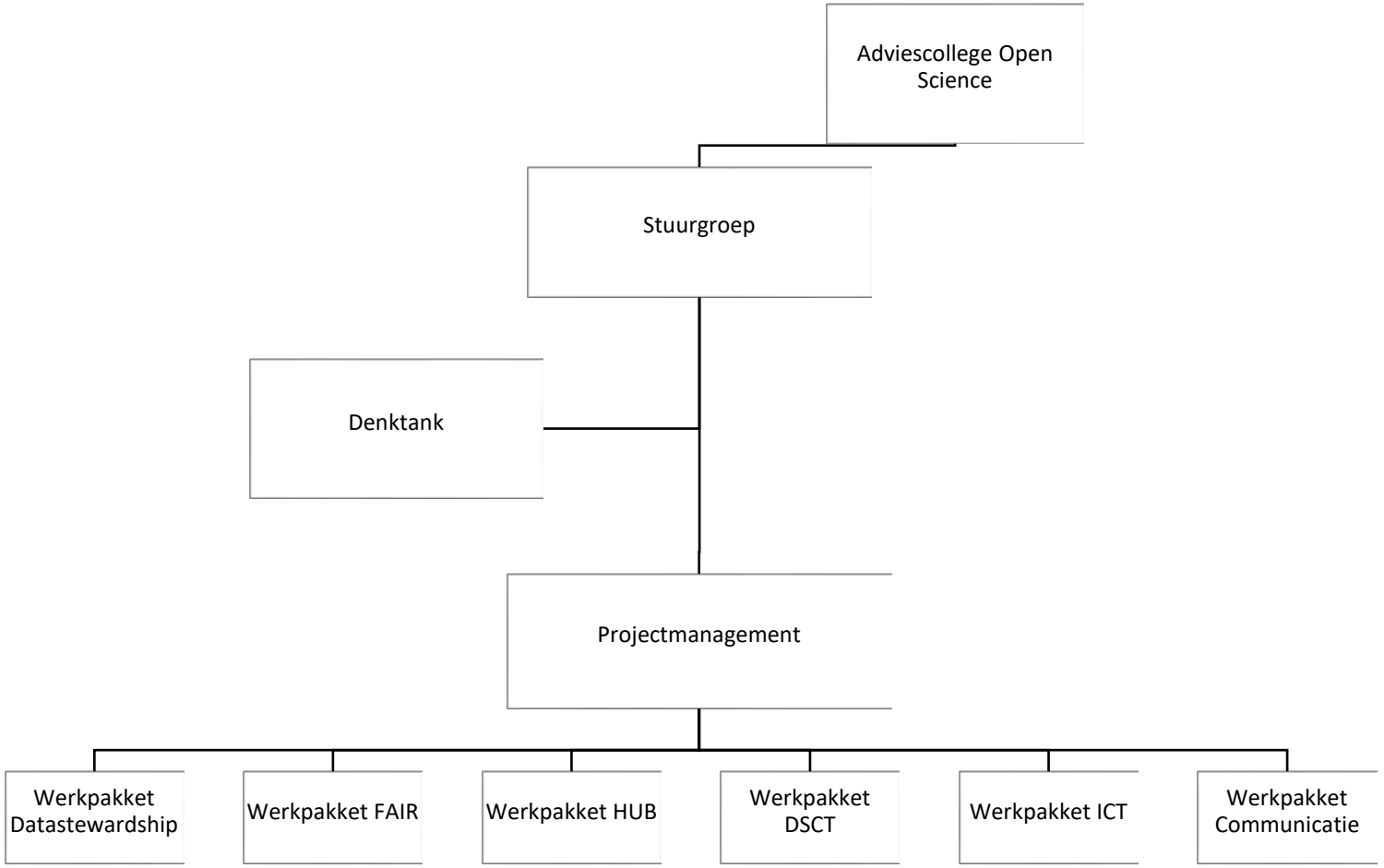


Financiering

- NWO Uitvoeringsplan Investeringen digitale onderzoeksinfrastructuur
  - eenmalige impulsfinanciering voor een DCC
  - Voorwaarde is dat alle deelnemende hogescholen een bijdrage leveren van 0,2 fte per jaar

- Daarnaast krijgt SURF ook nog impulsfinanciering ter ondersteuning van het DCC-PO. De activiteiten die ze vanuit daar gaan coördineren en ondersteunen:
    - Pilots en usability tests op het gebied van RDM en VRE
    - Trainingen

Projectorganisatie



Wie zijn de deelnemers?

- Avans Hogeschool
- De Haagse Hogeschool
- Fontys Hogescholen
- Hanzehogeschool Groningen
- Hogeschool Inholland
- Hogeschool Leiden
- Hogeschool Rotterdam
- Hogeschool Utrecht
- Hogeschool van Amsterdam
- Hogeschool van Arnhem en Nijmegen
- Hogeschool Windesheim
- HZ University of Applied Sciences
- Marnix Academie
- NHL Stenden Hogeschool
- Saxion Hogeschool
- Van Hall Larenstein

- Breda University of Applied Sciences en Zuyd Hogeschool participeren als volledige deelnemers in het project. De consortiumovereenkomst wordt binnenkort getekend met deze partijen.
- Naast bovenstaande hogescholen participeert SURF in verschillende werkpakketten.
- Aeres Hogeschool wil ook participeren in het project, de gesprekken hierover zijn gaande.

Looptijd en planning

Projectvoorbereiding / Opstartfase December 2020 – Februari 2021	• Bestuurlijke akkoorden zijn opgehaald (doormiddel van getekende consortiumovereenkomsten) • Juiste personen van de deelnemende instellingen zijn betrokken en verbonden • De juiste experts zijn aangesloten (*vanuit het project zoeken we de samenwerking en sluiten we aan op al bestaande ontwikkelingen en netwerken*) • Governance en projectstructuur is ingericht • Startbijeenkomsten van alle werkpakketten hebben plaatsgevonden
Overzicht en inzicht Maart 2021 – Mei 2021	• Praktijkvragen rondom werkpakket thema's ophalen en prioriteren • Eerste stuurgroep bijeenkomst • PvA project en per werkpakket uitgewerkt op hoofdlijnen, met de te behalen resultaten en doelen
Uitvoering Juni 2021- Mei 2022	• Werken aan de resultaten per werkpakket, relaties met andere werkpakket duiden en onderhouden
Evaluatie en vervolg Juni 2022 – November 2022	• Eindrapportage project DCC • Resultaten worden integraal online beschikbaar gesteld • Vervolg is geborgd

Uitvoering

We gaan aan de slag vanuit 6 werkpakketten:

- Organisatie van datastewardship in hogescholen
- FAIR data
- Opzet van een DCC als basis voor een toekomstige HUB
- Inrichten Data science care team (DSCT)
- ICT
- Communicatie

Een greep uit de te behalen resultaten….

Online plek voor kennis-uitwisseling

Handreiking voor de organisatie van datastewardship

Referentiearchitectuur en overzicht van bruikbare applicaties, tooling en technieken

Formats voor workshops/trainingen die datastewards/onderzoeksondersteuners kunnen gebruiken in hun eigen praktijk

Vertaling van DCC processen en procedures naar een toekomstig Research Support HUB

Handreiking voor het FAIR maken van data

Shared practices op het gebied van data-intensief onderzoek

Waar zijn we nu al mee bezig?

- Datastewardship: Hoe ziet de rol/functie van een datasteward eruit? Wat is de positie van de datastewards binnen een hogeschool en welk huidig trainingsaanbod is er voor datastewards.
- FAIR: per letter kijken we welke kennis en methodes er al voor handen zijn en welke stappen je op welk moment in het onderzoeksproces kunt zetten en we inventariseren hoe ver alle organisaties met FAIR zijn.
- HUB: We zijn bezig met het benoemen van de onderwerpen die belangrijk zijn om een HUB in te richten en gaan hiervoor meerdere scenario's schetsen. Denk aan de financiering, de reikwijdte, de doelgroep, de bemensing etc. Dit doen we onder andere aan de hand van een 'user journey' om te ontdekken waar in het onderzoeksproces en op welke manier een HUB ondersteunend kan zijn.
- DSCT: We zijn aan het inventariseren welke ondersteuningsbehoefte er is er op het gebied van datascience/data-intensief onderzoek (en we zijn het afbakenen wat we eronder verstaan). We inventariseren wat er nu voor dienstverlening wordt geboden vanuit de hogescholen zelf en wat er landelijk door andere instellingen wordt geboden.
- ICT: Vanuit bestaande kaders (HORA/HOSA) kijken we waar landelijke afspraken/ontwikkelingen gewenst zijn. We willen vanuit de data-life-cycle kijken naar het huidige IT-landschap en het gewenste toekomstige IT-landschap.
- Communicatie: We gaan aan de slag met communicatie in het project en over het project.

Contact

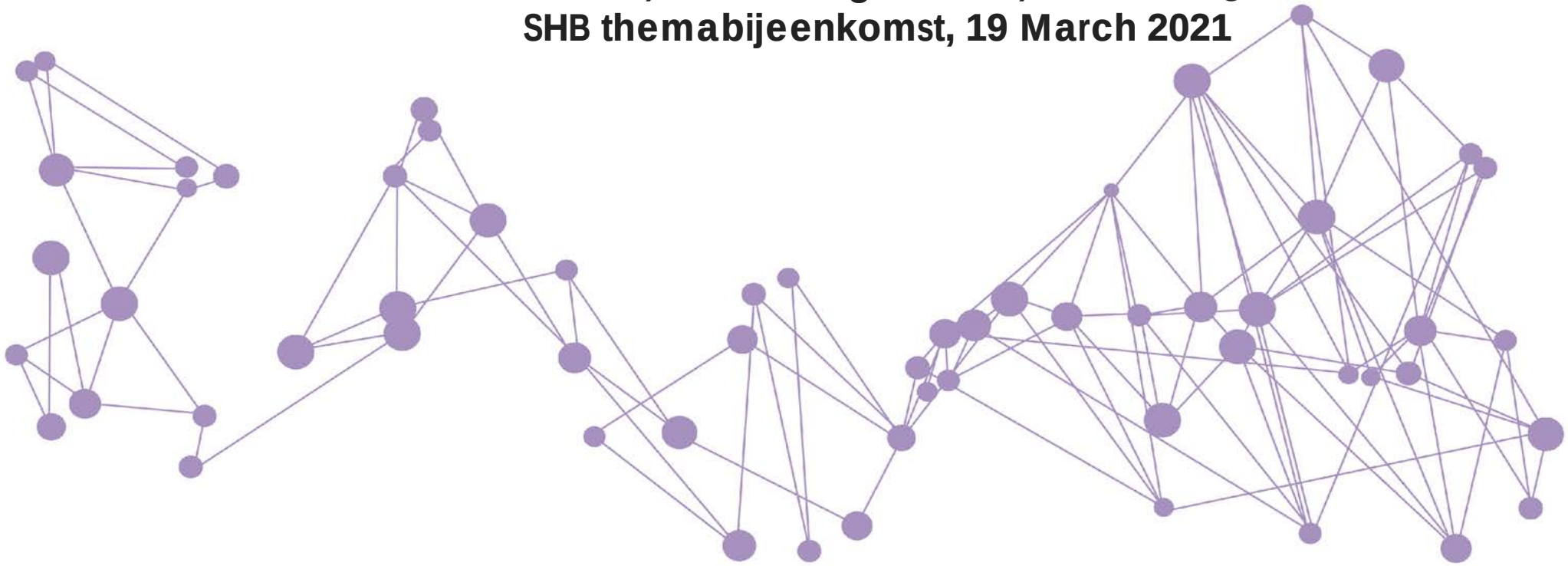
- Neem contact op als je interesse hebt om deel te nemen of als je vragen hebt:
  - Silvia Kempers
  - s.m.e.kempers@saxion.nl
  - 06-14324430

?

Professionalising data stewardship in the Netherlands: competences, training and education

Dutch roadmap towards national implementation of FAIR data stewardship

Mijke Jetten, DTL/Health-RI, mijke.jetten@dtls.nl
Renate Mattiszik, Saxion Hogeschool, r.mattiszik@saxion.nl
SHB themabijeenkomst, 19 March 2021



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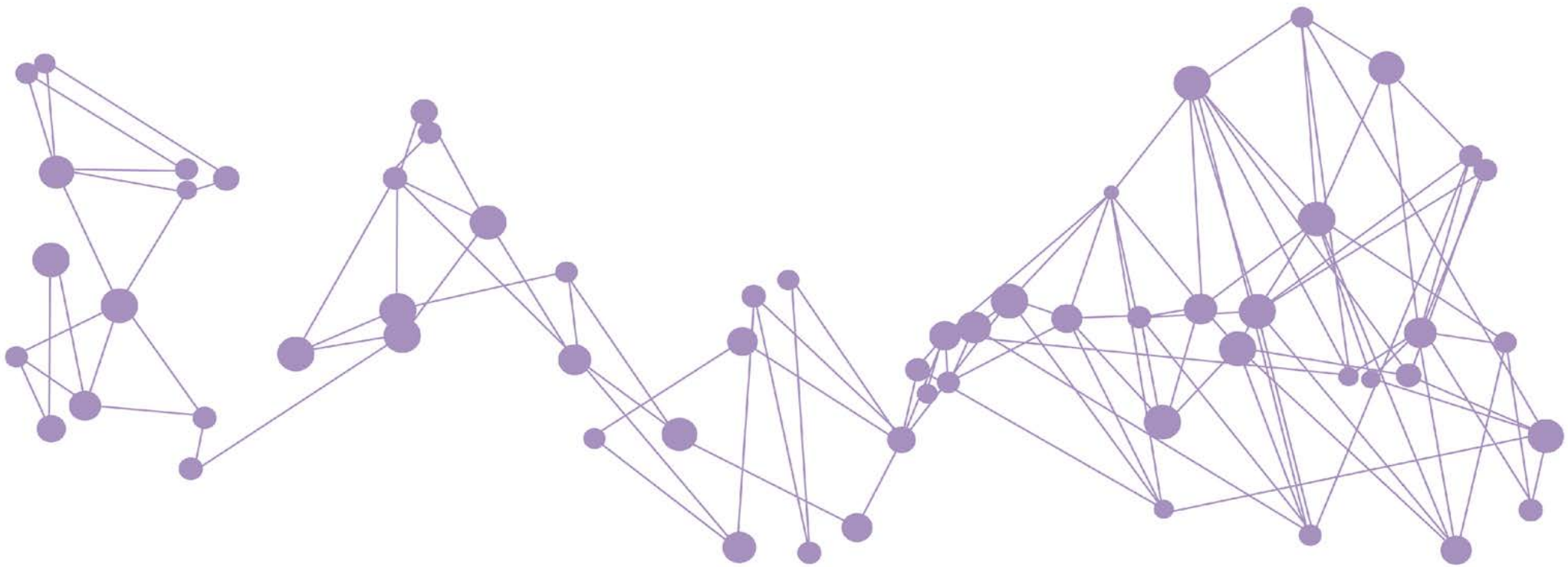
Part 1
Mijke Jetten



THE URGENCY OF A COHERENT APPROACH

Call for action in the current transition of science to Open Science

"Invest 5% of research funds in ensuring data are reusable. It is irresponsible to support research but not data stewardship. (...) Many top universities are starting to see that the costs of not sharing data are significant and greater than the associated risks. Data stewardship offers excellent returns on investment."
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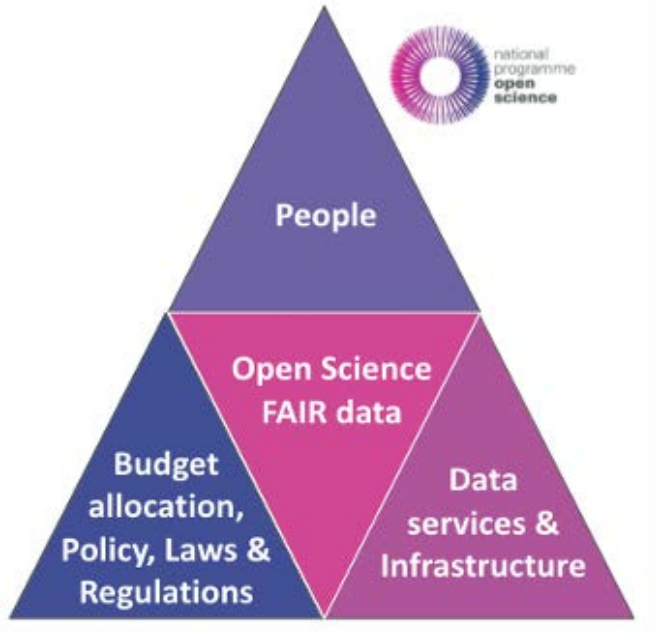
Three dimensions of the route to Open Science

- Policy, regulations, and allocation of budgets
- Research infrastructures and services
- Cultural change within the research and research support community

For each of these dimensions, various projects in the Dutch National Programme Science (NPOS; www.openscience.nl) provide input for the changes that need to take place



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THE URGENCY OF A COHERENT APPROACH

The NPOS-F project team consists of over thirty representatives of

- Universities
- University medical centres
- Universities of applied sciences
- Service providers
- Representatives of the major stakeholders VSNU, VH, NFU, PNN, SURF and ZonMw

[For more information see the acknowledgement slide]

Thanks to active involvement of so many partners and the practical applicability of the recommendations, we are convinced that this will result in the necessary decisions and activities to ensure adequate data steward capacity in the Netherlands

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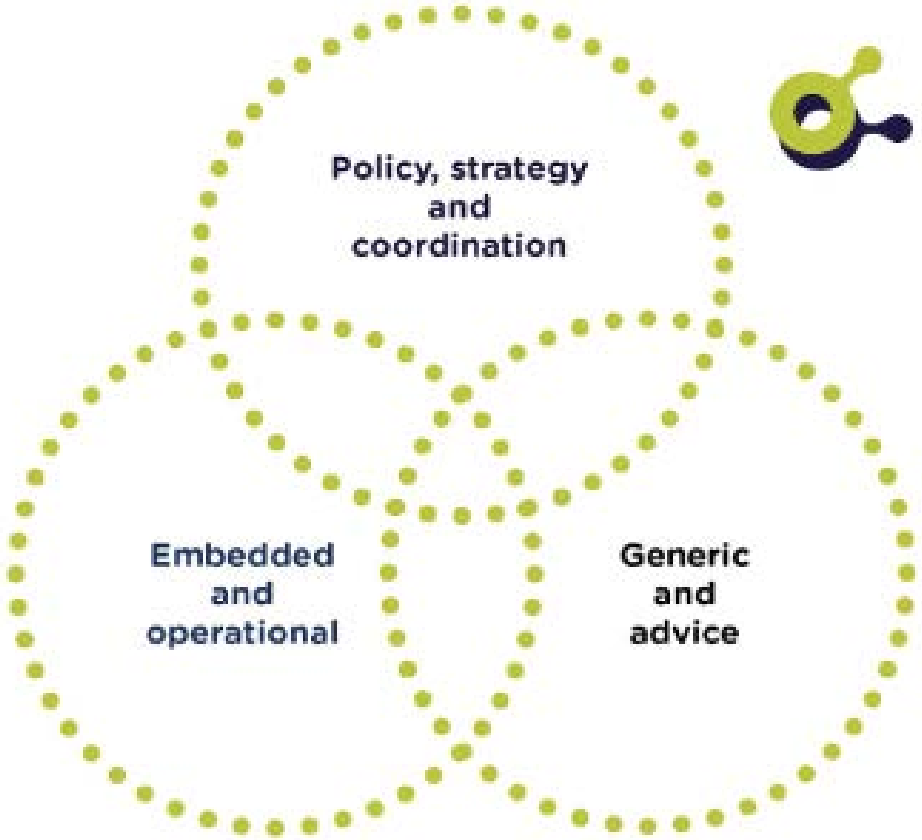
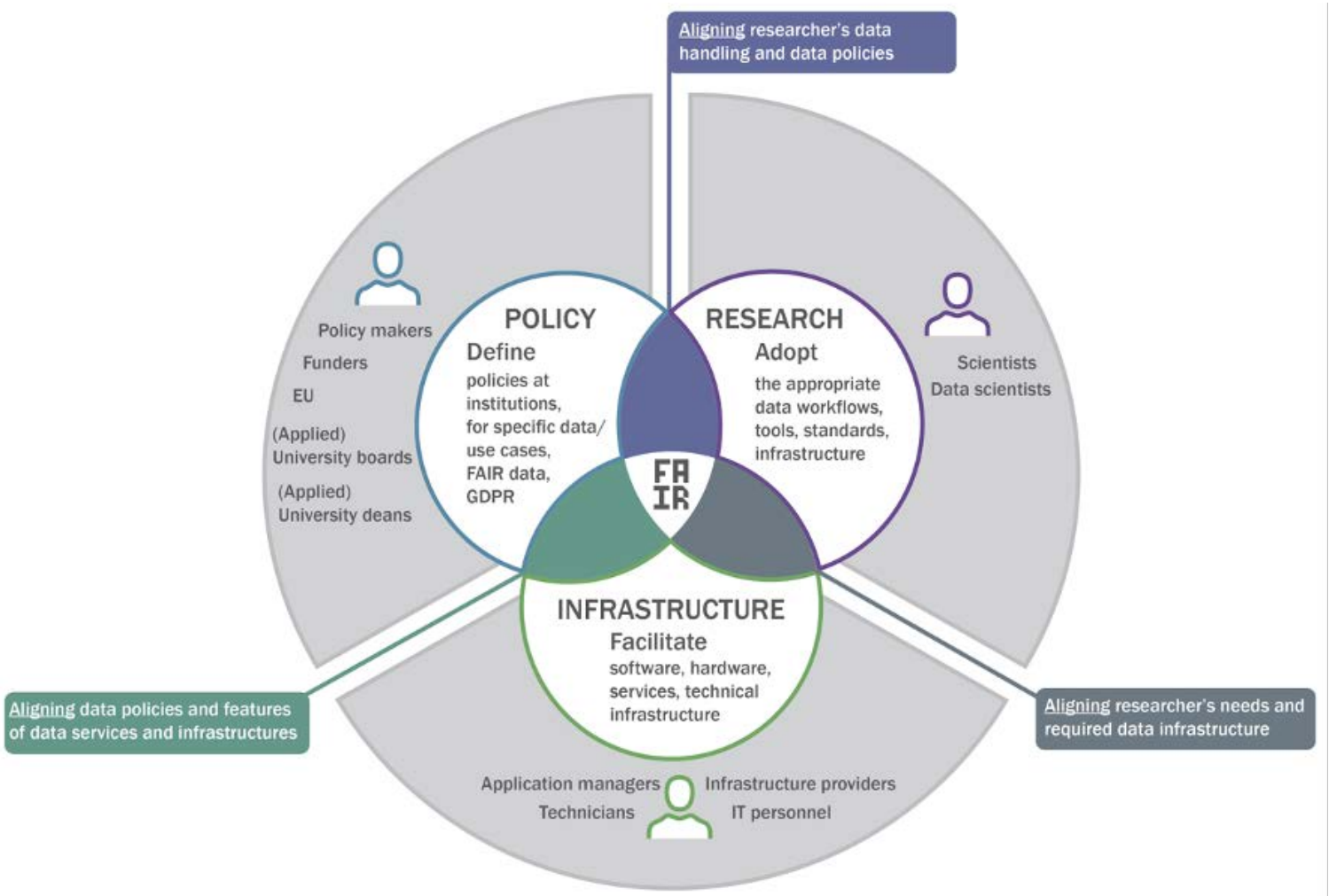


LCRDM data stewardship task areas
https://doi.org/10.5281/zenodo.2669150
https://doi.org/10.5281/zenodo.3066366



ZonMw/ELIXIR data stewardship roles in the data stewardship landscape
http://doi.org/10.5281/zenodo.3474789
https://doi.org/10.5281/zenodo.3243909

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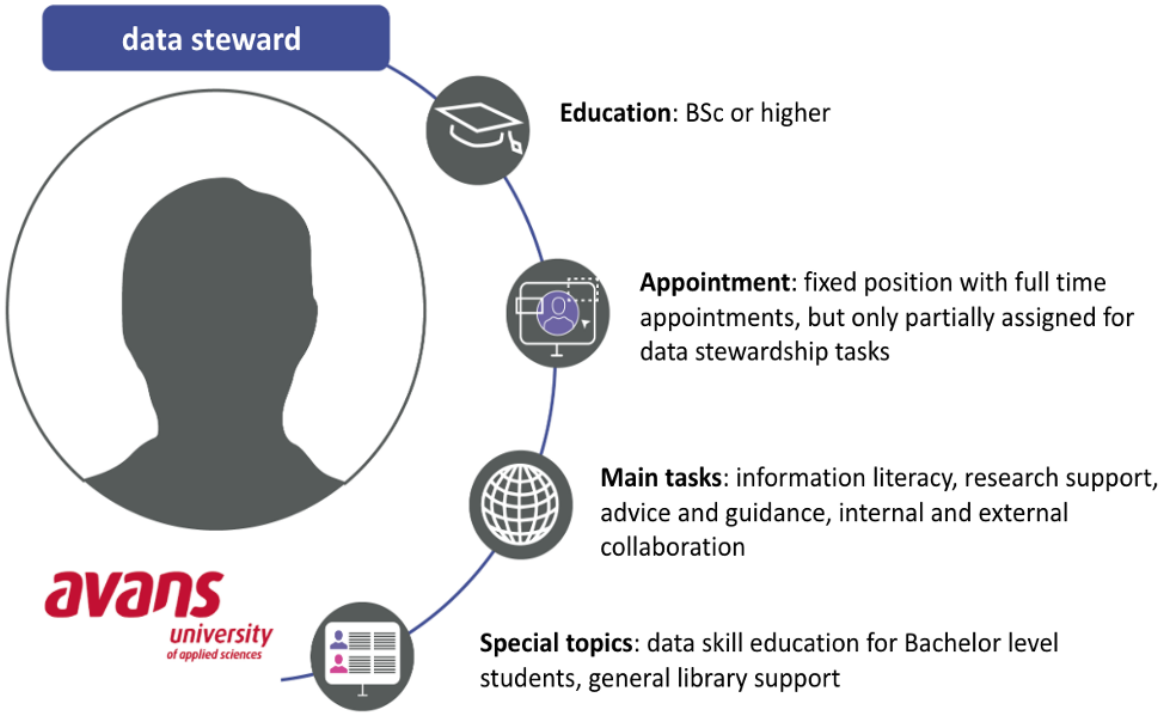
CHAPTER 3: LANDSCAPE ANALYSIS OF TRAINING & EDUCATION

First fact-check

Eight case studies (universities, UASs & UMCs) to give insight into data stewardship training and education

Case study 6 Avans University of Applied Sciences



Data steward in the organisation

1. Centralised coordination
2. Direct contact: researchers and teachers
3. Connect with academies via the library
4. Fixed positions
5. Supporting department of schools

Training for data stewards

1. Introduction course via Essentials 4 Data Support training

Learning on the job

1. Domain methodology
2. Domain data management needs

Strengths and challenges

1. Strength: steady workgroup
2. Strength: enough academies and research groups to collaborate
3. Challenge: implement data stewardship bottom up
4. Challenge: definition of the data stewardship job

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CHAPTER 3: LANDSCAPE ANALYSIS OF TRAINING & EDUCATION

Recommendations, based on the landscape analysis

[See Section 3.3 for details, including match with challenges and addressed stakeholders]

1. Use case studies to plan training
2. Care for your data steward
3. Collaborate in training
4. Importance of community and networking
5. Coordinated approach to data stewardship
6. Flexibility in the job
7. Proximity of data stewards to peers

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CHAPTER 4: JOB PROFILES FOR DATA STEWARDS

Basic job components

This chapter is based on extensive information in the annexes:

- Domain areas, responsibilities and tasks, as well as the competences of a data steward (Annex 3)
- Basic components of the data steward job profile, structured loosely in alignment with the UFO (universities) job classification system (Annex 5)
- Three local university data steward job profiles, proposed for the FUWAVAZ (UMCs) job classification system (Annex 6)
- Proposal for a job profile for data stewards in UASs (Annex 7)
- Basic components of the research software engineer job profile (Annex 4)

Basic job profile components of a data steward

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CHAPTER 4: JOB PROFILES FOR DATA STEWARDS

Recommendations

[See Section 4.4 for details, including match with challenges and addressed stakeholders]

1. Formalise profiles
2. Adopt profiles
3. Create career perspectives
4. Allow diversity of roles and types
5. Adopt good practices
6. Secure positions

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CHAPTER 5: TRAINING, EDUCATION AND CERTIFICATION

Annotating training resources

- Inventory of training resources
- Pilot annotation of courses

Certification for data stewards

- Inventory of existing certification mechanism
- Categories: courses, trainees, trainers, and organisations
- Certification for data stewardship is still in its early days
- Certification needs to be done in alignment with similar activities in Europe and beyond

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CHAPTER 5: TRAINING, EDUCATION AND CERTIFICATION

Recommendations

[See Section 5.4 for details, including match with challenges and addressed stakeholders]

1. Standardise metadata for training
2. Develop a training annotation process
3. Create curated resources
4. Align with international certification initiatives
5. Identify a certification provider

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CHAPTER 6: DATA STEWARD SKILLS TOOL

Tools, personas and learning paths

- Competency Hub (https://competency.ebi.ac.uk) is interested to expand their tool for our use case and discuss adaptations needed
- In collaboration with ELIXIR, as a pilot, content was added to the Competency Hub tool: expertise areas, responsibilities, tasks, KSAs, and learning objectives
- Independently of existing tools, ideas have been discussed about how users might expect to use a tool to assess their competences and find out about training opportunities
- Five different data steward personas have been identified, to show how stewards would benefit from the tool and what possible pathways they might want to take to move through such a data steward skills tool
- An example data steward persona and corresponding pathway is presented here

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CHAPTER 6: DATA STEWARD SKILLS TOOL

Recommendations

[See Section 6.4 for details, including match with challenges and addressed stakeholders]

1. Competency Hub integration
2. Committee of stakeholders for development process
3. Working group for content
4. Potential owner inventory

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CHAPTER 7: IMPLEMENTING DATA STEWARDSHIP

Recommendations for specific stakeholders

[See Section 7.3 for details]

In this section, we have specified the recommendations for the main stakeholder groups:

- The NPOS steering committee
- Universities, university medical centres, universities of applied sciences, and their board members, deans and HR managers (“local organisations”)
- VSNU, NFU and VH and similar representative organisations (“umbrella organisations”)
- Research-funding organisations, such as ZonMw and NWO
- Representatives of the researcher communities, such as PNN, the networking organisation for PhD candidates, and the local Open Science communities
- Service-providing, networking and training organisations, such as DTL, SURF, LCRDM, Health-RI, and RDNL

The recommendations often concern joint actions of local and umbrella stakeholders. A first action could be the installation of a temporary **implementation team** that - together with a **committee of stakeholders** - plans, consolidates and harmonises actions and initiatives

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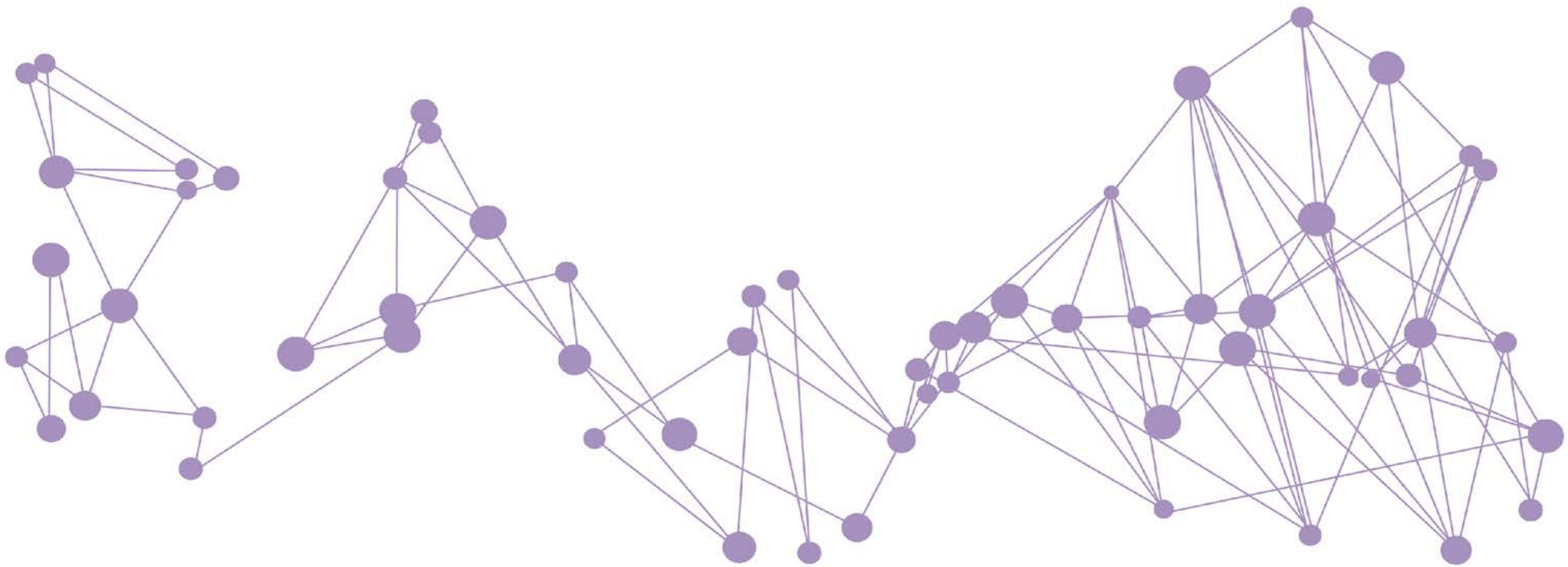
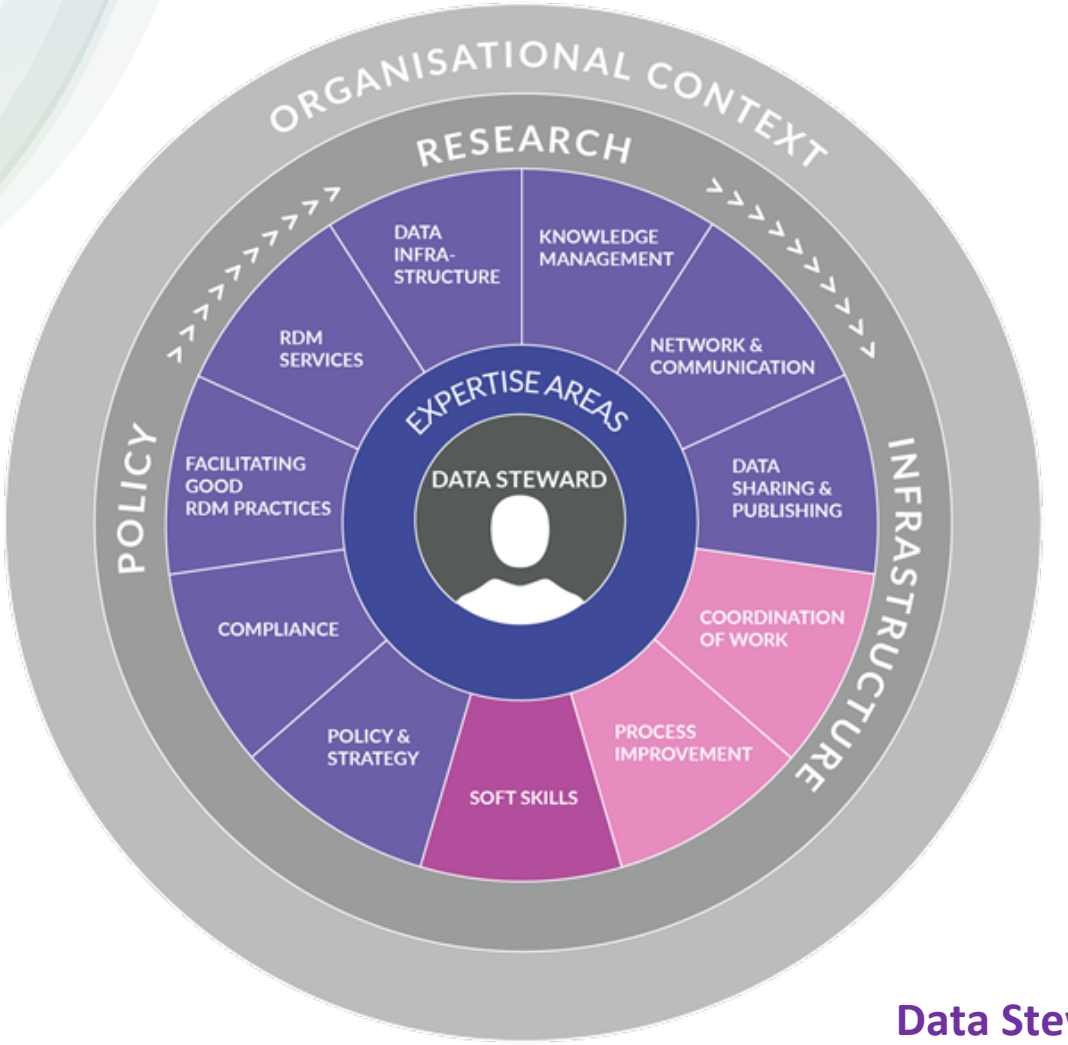
Part 2
Renate Mattiszik



Data Stewardship bij hogescholen



Data Steward 3: uitvoerende taken
Data Steward 2: ook coördinerende taken
Data Steward 1: ook beleidstaken

Aanbevelingen

- Uniform functieprofiel
- Onderdeel van functiegebouw
- Aantrekkelijke arbeidsvoorwaarden
- Voldoende trainings- en scholingsmogelijkheden
- Plaatsing in één organisatorische eenheid
- Data analist naast data steward

Uitdagingen

- CvB's, HR, directeuren etc. meenemen in professionalisering van onderzoek
- Data Stewardship volwaardige taak
- Bibliotheken/Research Services als uitvalsbasis
- Training/scholing **met** certificering
- Schaarste data stewards

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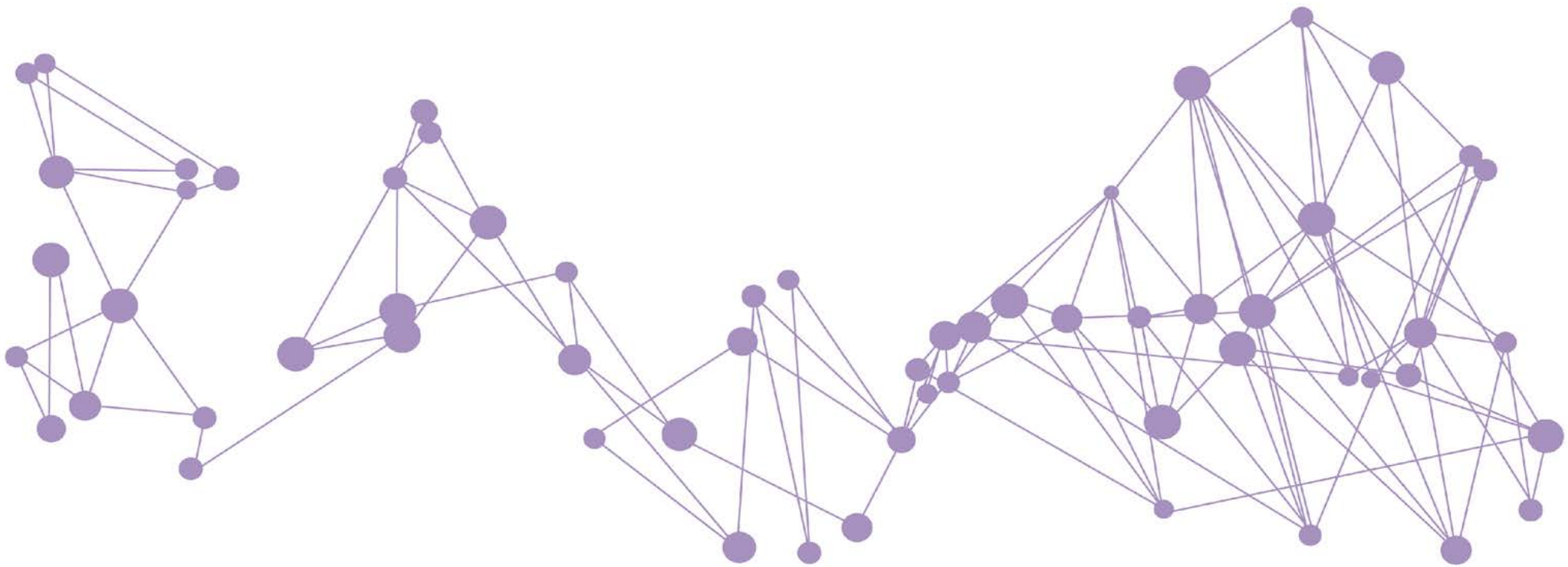
Extended slide deck NPOS F project



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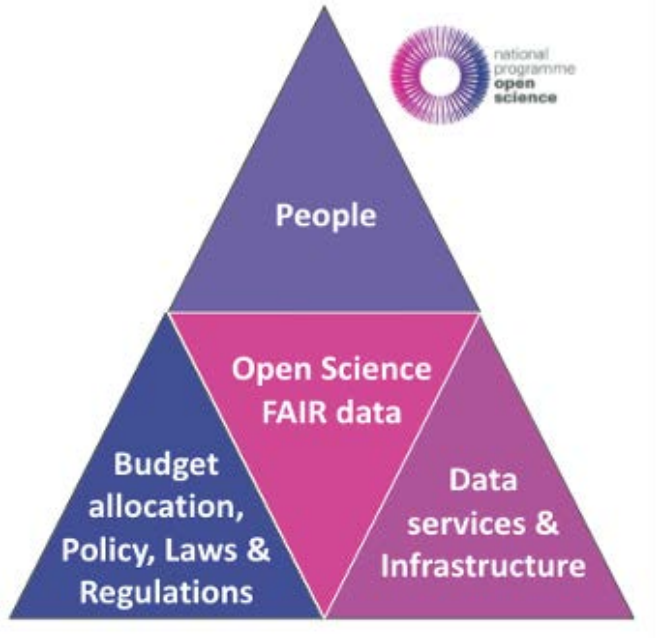

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THE URGENCY OF A COHERENT APPROACH

How many data stewards do we need where in the organisation with which competences?

Realising data steward capacity has a strong impact:

- National funds for science and institutional budgets
- Changes in the research-performing organisation, including HR management
- Policy-making organisations and research-funding organisations need to be involved in this change

Ambitions of the NPOS-F project

- Data steward profession should become part of HR planning of an organisation and include a vision on career development
- Research institutes should collaborate with policy makers and research-funding organisations to recognise and reward data stewards as full members in research groups for the long term, including budgets

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THE URGENCY OF A COHERENT APPROACH

NPOS-F project helps to take actions to ensure data steward capacity

1. Research-performing, policy-making & research-funding organisations need to understanding data stewardship
   - Analysis of the current situation, what is needed for Open Science and FAIR data, and overview of work domains, competences, roles and tasks
   - Basis for recommendations on job profiles, training and education that contribute to professionalising data stewardship

1. The number of data stewards and their competences depends on the context in which they operate
   - What is the type of research and data intensity involved? What data services and data infrastructure are available? How well is an organisation prepared to apply Open Science practices?
   - What are the knowledge and skills of researchers with respect to data stewardship and how can data stewards optimally support them? From that perspective, there is still much to be gained

1. Professionalising data stewardship is inseparable from the position of the data steward within institutions
   - Institutes struggle with the function of the data steward related to the researcher's tasks for data
   - With the competences provided, it is possible to take strategic decisions for the composition of a research group, considering research-oriented data stewards and data-oriented researchers

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THE URGENCY OF A COHERENT APPROACH

NPOS-F draws attention to the need for a nationally coordinated action

- Define data stewardship competences and formalising the job profiles via job classification systems
- Define, develop and deliver tailored training programmes to match these required competences
- Build a data steward skills tool, as a single point of reference for up-to-date information on competences, job profiles, and training, and allowing for (self-)assessment and career development

Recommendations for local and umbrella organisations together

- Implement the the data stewards job profile nationally (job classification systems) and locally (HR departments)
- Recognise and reward data stewards, secure their position and include development and remuneration
- Create an continuous culture for data steward education, incl. soft skills, networking and peer exchange
- Formalise existing training efforts incl. certification as a joint effort of local and umbrella organisations
- Develop a skills tool for data stewards and organisations to assess responsibilities, tasks and competences, combined with navigation to training and training materials

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THE URGENCY OF A COHERENT APPROACH

The NPOS-F project team consists of over thirty representatives of

- Universities
- University medical centres
- Universities of applied sciences
- Service providers
- Representatives of the major stakeholders VSNU, VH, NFU, PNN, SURF and ZonMw

[For more information see the acknowledgement slide]

Thanks to active involvement of so many partners and the practical applicability of the recommendations, we are convinced that this will result in the necessary decisions and activities to ensure adequate data steward capacity in the Netherlands

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THE URGENCY OF A COHERENT APPROACH

NPOS-F report content

- Chapter 1: variety of international developments and introduces NPOS, in particular the NPOS-F project
- Chapter 2: definition of data steward(ship), training & education, and results of two earlier Dutch projects
- The next four chapters address the four angles from which we approached the project:
  - Chapter 3: analysis of the data stewardship training and education landscape, based on case studies
  - Chapter 4: components of a job profile for data stewards (and research software engineers)
  - Chapter 5: existing data-related trainings and at certification of education and training
  - Chapter 6: basics of a data steward skills tool as a single point of reference for up-to-date information
- Whereas Chapters 3 through 6 contain recommendations, the final Chapter 7 addresses higher-level recommendations to specific stakeholders

For a quick overview, we advise to read the preambule, executive summary and Chapter 7

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CHAPTER 1: INTRODUCTION & BACKGROUND

Roadmap to FAIR data stewardship

- This chapter shows that there are various national and international initiatives that support the urgence of professionalising data stewardship [Section 1.1]
- This chapter shows that we face various challenges on professionalising data stewardship [Section 1.2] which will be addressed in the report, including practical recommendations
- This chapter shows that the Dutch National Programme Open Science (NPOS) offers the opportunity to transform these challenges and recommendations into a nationally coordinated action plan of local and umbrella organisations [Sections 1.3 and 1.4]

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Professionalising data stewardship: competences, training and education

Objectives	Deliverables	Long term ambition
 National coordination on the competences and learning outcomes	Scoping document: target audience & glossary	Endorsement of overview of competences by national stakeholders
	Case studies for training and education, incl. certification	Towards national framework(s) for competences
	Competences of data stewards, incl. human resource (HR) profiles (UFO, FUWAVAZ, Hay)	Towards national framework(s) for curriculum for data professionals
 A well-annotated and searchable overview of training	Inventory of training resources, including pilot annotation with competences	Data steward skills tool development
	Design for a data steward skills tool, including (self-)assessment & pointers to training resources	Strategy for tool dissemination

NPOS-F project and its objectives, deliverables and ambitions

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CHAPTER 2: DATA STEWARDSHIP LANDSCAPE

Joint efforts to professionalising data stewardship

- This chapter gives a useful overview of (working) definitions of data steward and data stewardship, and describes the relation between education and training [Sections 2.1 and 2.2]
- This NPOS-F project is a continuation of two complementary Dutch data stewardship projects [Section 2.3], which are visualised on the next slide
- This chapter presents the many stakeholders in data stewardship, from research-performing organisations and policy-making organisations to research-funding organisations [Section 2.4]

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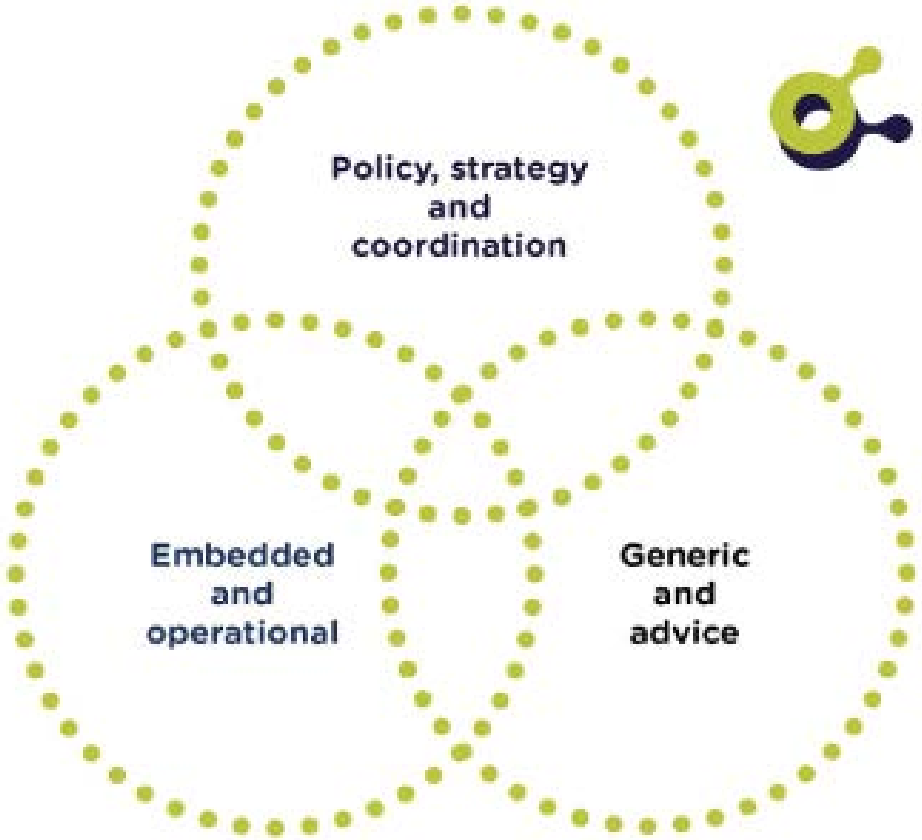
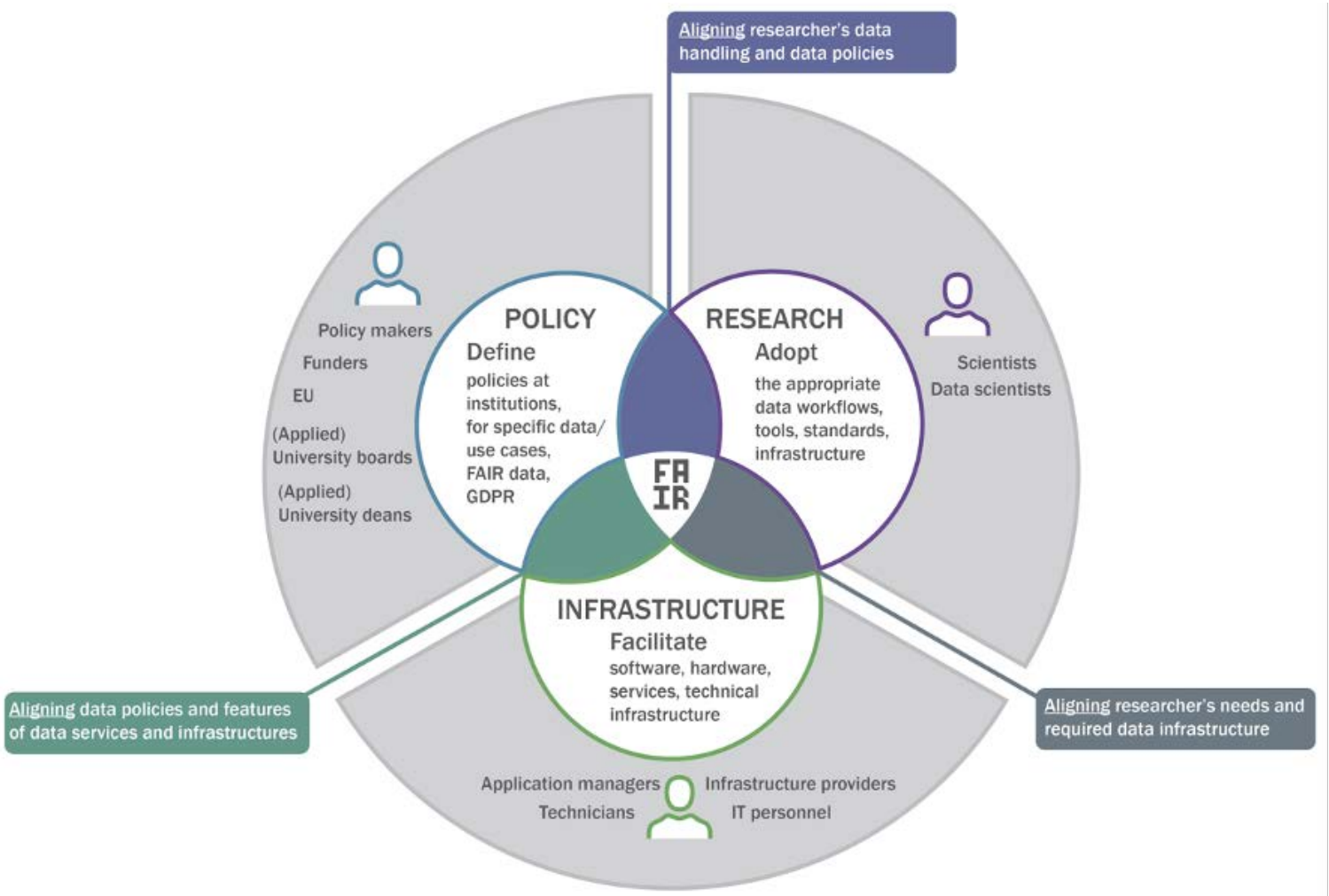


LCRDM data stewardship task areas
https://doi.org/10.5281/zenodo.2669150
https://doi.org/10.5281/zenodo.3066366



ZonMw/ELIXIR data stewardship roles in the data stewardship landscape
http://doi.org/10.5281/zenodo.3474789
https://doi.org/10.5281/zenodo.3243909

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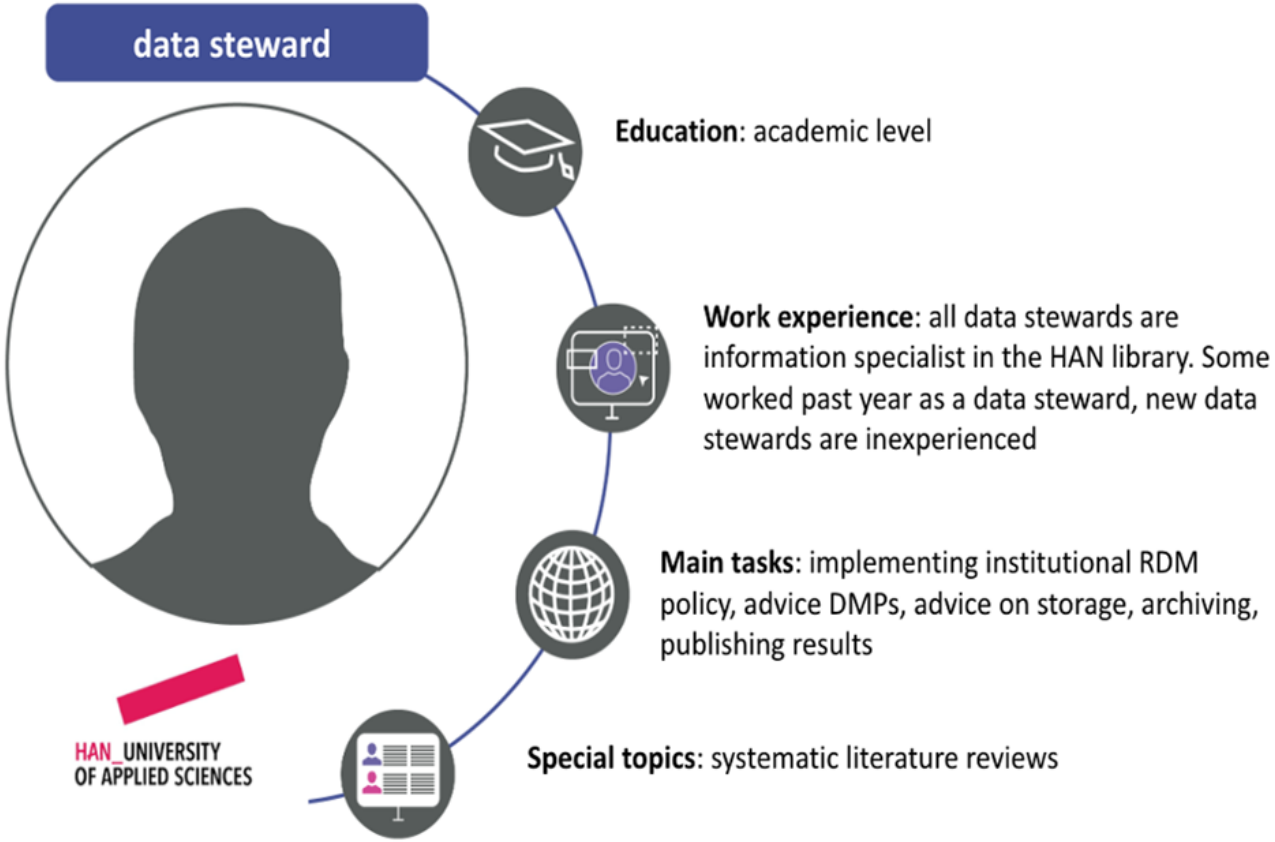
CHAPTER 3: LANDSCAPE ANALYSIS OF TRAINING & EDUCATION



Data steward in the organisation

1. Positioned at the library
2. RDM support is an additional task and not a function in the organisation

Training for data stewards

1. Essentials 4 Data Support as introduction to RDM
2. Academic level

Learning on the job

1. Collaboration with data stewards
2. Participation in (inter)national RDM community
3. Webinars
4. Having an network of experts and researchers within the HAN

Strengths and challenges

1. Strength: increasing awareness for research support in general
2. Challenge: unclear policies on RDM and data stewardship
3. Challenge: lack of proper training for data stewards

Example HAN University of Applied Sciences data steward & case study reference card

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CHAPTER 3: LANDSCAPE ANALYSIS OF TRAINING & EDUCATION

Challenges, based on the landscape analysis

[See Section 3.2 for details]

1. Formalisation: lack of formal education and training for data stewards, and unclear which skills and personal development are required for data stewardship
2. Defining needs: difficulty of defining training needs of data stewards - which will help trainers and educational experts to develop training programs
3. Existing training: lack of insight into existing training for data stewards: what is available, with which content, what knowledge gaps does it address, and how do learners value it?
4. Lifelong learning: lack of support for life-long learning for data stewards
5. Strategic vision: a bottom-up implementation of data stewardship - without a strategic vision and corresponding capacity, governance and funding in an organisation - is vulnerable and susceptible to frequently changing priorities
6. Awareness: the difficulty of raising awareness about data stewardship among researchers

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CHAPTER 3: LANDSCAPE ANALYSIS OF TRAINING & EDUCATION

Recommendations, based on the landscape analysis

[See Section 3.3 for details, including match with challenges and addressed stakeholders]

1. Use case studies to plan training
2. Care for your data steward
3. Collaborate in training
4. Importance of community and networking
5. Coordinated approach to data stewardship
6. Flexibility in the job
7. Proximity of data stewards to peers

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CHAPTER 4: JOB PROFILES FOR DATA STEWARDS

Challenges

[See Section 4.2 for details]

1. Profiles: lack of profiles that match responsibilities and tasks, which complicates recruitment
2. Career tracks: difficulty of defining clear career tracks for data stewards, including recognition and remuneration
3. Position: in the organisation, lack of attention for the distinctive position of a locally embedded data steward at the faculty or department level, and a centrally positioned generic data steward
4. Good practices: even if good practices and example job profiles exist, most organisations are not aware of these examples, as they are not shared
5. Capacity: lack of capacity in data stewardship, due to the demands for FAIR data. Formal job profiles will contribute to professionalising data stewardship and thus facilitate the process of recruitment

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CHAPTER 4: JOB PROFILES FOR DATA STEWARDS

Basic job components

This chapter is based on extensive information in the annexes:

- Domain areas, responsibilities and tasks, as well as the competences of a data steward (Annex 3)
- Basic components of the data steward job profile, structured loosely in alignment with the UFO (universities) job classification system (Annex 5)
- Three local university data steward job profiles, proposed for the FUWAVAZ (UMCs) job classification system (Annex 6)
- Proposal for a job profile for data stewards in UASs (Annex 7)
- Basic components of the research software engineer job profile (Annex 4)

Basic job profile components of a data steward

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CHAPTER 4: JOB PROFILES FOR DATA STEWARDS

Recommendations

[See Section 4.4 for details, including match with challenges and addressed stakeholders]

1. Formalise profiles
2. Adopt profiles
3. Create career perspectives
4. Allow diversity of roles and types
5. Adopt good practices
6. Secure positions

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CHAPTER 5: TRAINING, EDUCATION AND CERTIFICATION

Challenges

[See Section 5.2 for details]

1. Findability: lack of findable, adequate education and training for data stewards, or where they exist, missing clarity on how they relate to the competence development of data stewards
2. Competences: lack of agreement on responsibilities, tasks and competences of data stewards, which complicates developing education and training
3. Coordination: lack of alignment and coordination among and between local, national and international stakeholders on developing education and training related to data stewardship
4. Certification: lack of certification for data stewardship related education and training, training providers and trainers

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CHAPTER 5: TRAINING, EDUCATION AND CERTIFICATION

Annotating training resources

- Inventory of training resources
- Pilot annotation of courses

Certification for data stewards

- Inventory of existing certification mechanism
- Categories: courses, trainees, trainers, and organisations
- Certification for data stewardship is still in its early days
- Certification needs to be done in alignment with similar activities in Europe and beyond

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CHAPTER 5: TRAINING, EDUCATION AND CERTIFICATION

Recommendations

[See Section 5.4 for details, including match with challenges and addressed stakeholders]

1. Standardise metadata for training
2. Develop a training annotation process
3. Create curated resources
4. Align with international certification initiatives
5. Identify a certification provider

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CHAPTER 6: DATA STEWARD SKILLS TOOL

Challenge

[See Section 6.2 for details]

Single point of reference (tool): up-to-date information on competences, profiles, training, and allowing for (self)assessment and identification of career development, for:

- Data stewards
- Employers looking at recruitment
- Employers and employees wanting to make an assessment of skills and development needs
- Training providers wanting to develop new training opportunities

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CHAPTER 6: DATA STEWARD SKILLS TOOL

This single challenge summarises several challenges mentioned before

- Compare data steward roles to clarify responsibilities and ensure that teams contain complementary skills
- Individual data stewards have no benchmarks against which they can assess their skills and knowledge
- Data stewards have varied backgrounds and therefore different development needs
- Employers have to rely on previous examples of job vacancies to describe the competences for new job profiles and assess potential candidates
- Data stewards have no clarity in potential career progression
- Data stewards and employers often rely on serendipity to discover training opportunities
- Data stewards and their employing institutions frequently rely on national networks to share ideas and information, but with the growing population of data stewards it is becoming increasingly difficult to keep track of all opportunities and examples of best practice

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CHAPTER 6: DATA STEWARD SKILLS TOOL

Tools, personas and learning paths

- Competency Hub (https://competency.ebi.ac.uk) is interested to expand their tool for our use case and discuss adaptations needed
- In collaboration with ELIXIR, as a pilot, content was added to the Competency Hub tool: expertise areas, responsibilities, tasks, KSAs, and learning objectives
- Independently of existing tools, ideas have been discussed about how users might expect to use a tool to assess their competences and find out about training opportunities
- Five different data steward personas have been identified, to show how stewards would benefit from the tool and what possible pathways they might want to take to move through such a data steward skills tool
- An example data steward persona and corresponding pathway is presented here

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data steward

Education and qualification: Ma or PhD in a relevant scientific domain

Work experience and background: research experience in university or business; speaks the language of the researcher; aware of researchers' needs; embedded in specific projects

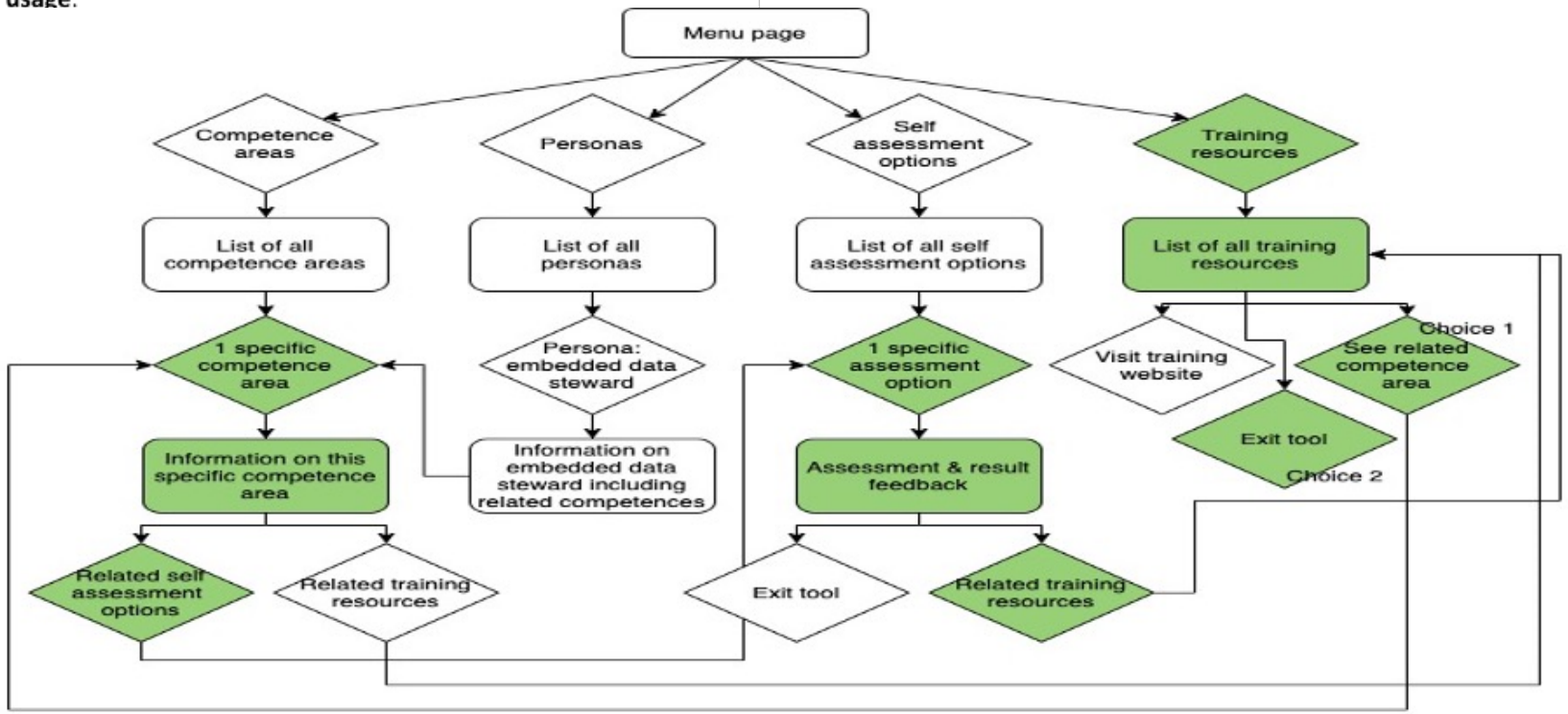
Responsibilities and tasks: efficient and quick in handling data; analytical focus; responsible for data processing and analysing; manages big data; takes a consultancy role

RESEARCH

User story (example) for tool usage:
- As a research oriented data management is an intrinsic p
- As a research oriented data help my researchers with ma
- As a research oriented data data management, so I know

Research data steward persona (individual perspective)

Training resources, example learner journey of a research data steward



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CHAPTER 6: DATA STEWARD SKILLS TOOL

Recommendations

[See Section 6.4 for details, including match with challenges and addressed stakeholders]

1. Competency Hub integration
2. Committee of stakeholders for development process
3. Working group for content
4. Potential owner inventory

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CHAPTER 7: IMPLEMENTING DATA STEWARDSHIP

The role of data stewardship in the transition to FAIR data

- Setting ambitions with respect to FAIR data gives rise to a high demand for professional data stewardship, in numbers and in competences
- It also questions the organisational position of data stewards, and the balance between, on the one hand, the embedded and more research-oriented data stewards and, on the other hand, the generic and more policy- and/or infrastructure-oriented data steward
- Although data stewards are primarily based at research institutes, there is a common interest for all stakeholders, including policy makers and research-funding organisations, to ensure a sustainable position for data stewards. This implies a shared approach for recognising and rewarding data stewards and shared responsibility for financing their position
- This generates a demand for certified curricula to train current and future data stewards
- An important context for a FAIR data stewardship roadmap is facilitating the - nationally stimulated - Digital Competence Centres that are currently being created at Dutch universities, university medical centres and universities of applied sciences

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CHAPTER 7: IMPLEMENTING DATA STEWARDSHIP

Summary of recommendations

Landscape analysis of current data stewardship practices (Chapter 3)

- Analyse local data stewardship case studies to clarify the needs of the data stewards of your organisation
- Develop a coordinated approach to data stewardship, which includes care for the data steward
- Collaborate locally and nationally in organising training

Job profiles and careers for data stewards (Chapter 4)

- Formalise the data steward function profiles in the job classification systems and stimulate local organisations to adopt these
- Local organisations should start building up data stewardship capacity and secure these positions in their organisation
- Make sure that job profiles reflect the required competences, and are sensitive to diversity in background and expertise, as well as to differences in roles, types and positioning in an organisation

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CHAPTER 7: IMPLEMENTING DATA STEWARDSHIP

Summary of recommendations

Education and training of data stewards (Chapter 5)

- Standardise metadata for data stewardship training and education, based on the defined data steward competences, and use these metadata tags to create curated training resources
- Develop a dedicated, if possible certified, curriculum to train current and future data stewards, to be able to meet the required data steward expertise level and capacity

Data steward skills tool (Chapter 6)

- Create a data steward skills tool as a single point of reference for data steward competences, training and education
- Add the competences, personas, and training opportunities presented in this report to the existing Competency Hub tool
- Organise a committee of stakeholders and an implementation team for, among others, further tool development

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CHAPTER 7: IMPLEMENTING DATA STEWARDSHIP

Recommendations for specific stakeholders

[See Section 7.3 for details]

In this section, we have specified the recommendations for the main stakeholder groups:

- The NPOS steering committee
- Universities, university medical centres, universities of applied sciences, and their board members, deans and HR managers (“local organisations”)
- VSNU, NFU and VH and similar representative organisations (“umbrella organisations”)
- Research-funding organisations, such as ZonMw and NWO
- Representatives of the researcher communities, such as PNN, the networking organisation for PhD candidates, and the local Open Science communities
- Service-providing, networking and training organisations, such as DTL, SURF, LCRDM, Health-RI, and RDNL

The recommendations often concern joint actions of local and umbrella stakeholders. A first action could be the installation of a temporary **implementation team** that - together with a **committee of stakeholders** - plans, consolidates and harmonises actions and initiatives

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ACKNOWLEDGEMENTS

Reference

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. Zenodo. https://doi.org/10.5281/zenodo.4320504

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