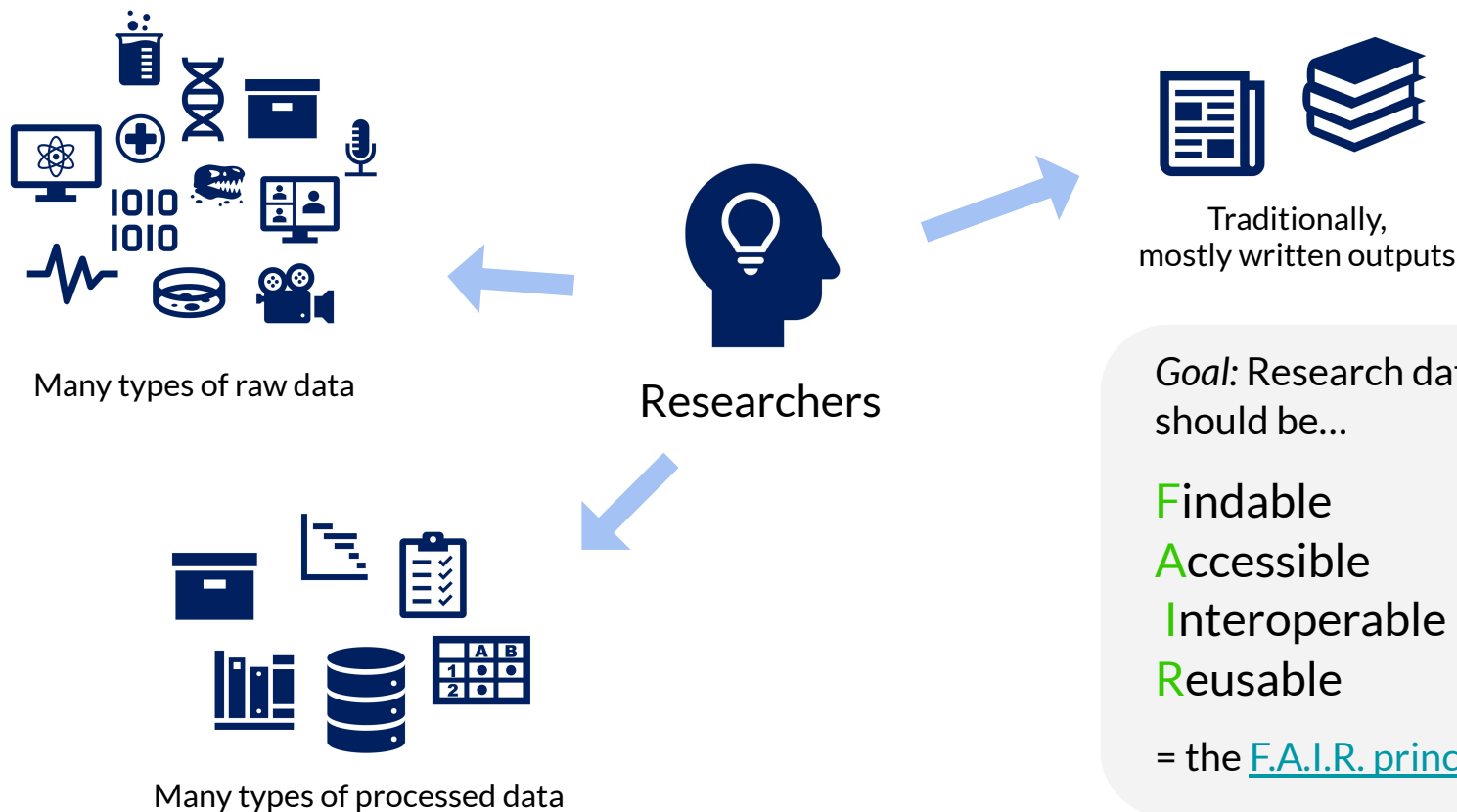# Dutch National Thematic Digital Competence Centres

www.tdcc.nl

EOSC National Tripartite Event Netherlands

22 May 2024, Utrecht

Nils Arlinghaus (TDCC-SSH), Celia van Gelder (TDCC-LSH), Joanne Yeomans (TDCC-NES)

Context DCCs: Research Data and Software - Expectation

TDCC

Many types of raw data

Researchers

Traditionally,
mostly written outputs

Many types of processed data

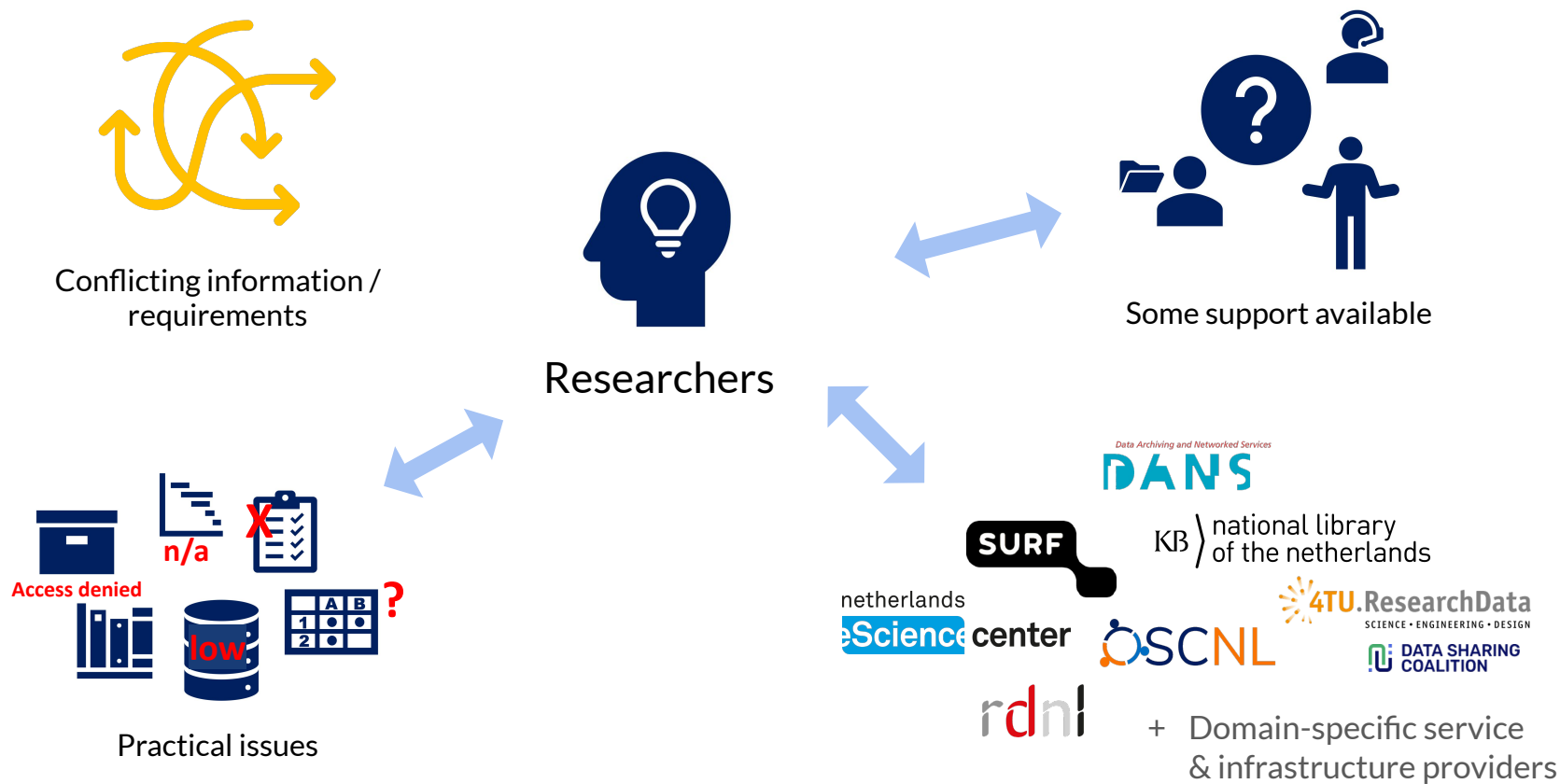*Goal*: Research data & software should be...

Findable

Accessible

 Interoperable

Reusable

= the F.A.I.R. principles

Context DCCs: The situation in practice

Conflicting information / requirements

Researchers

Some support available

Access denied

n/a

X

?

low

Practical issues

DANS
Data Archiving and Networked Services

SURF

KB national library of the netherlands

netherlands eScience center

OSCNL

4TU.ResearchData
SCIENCE · ENGINEERING · DESIGN

DATA SHARING COALITION

rdnl

+ Domain-specific service & infrastructure providers

Bridging

Funding for digital infrastructure via Ministry of Education, Culture & Science (OCW)

Planning

Permanent Committee for Large-Scale Research Infrastructure (PC-GWI)

Implementation

NWO Implementation Plan for Investments in Digital Research Infrastructure (2019)

- National computational facilities: SURF
- eScience Center
- **Local DCCs**
- **Thematic DCCs**

Integrale aanpak voor digitalisering in de wetenschap

Uitvoeringsplan investeringen digitale onderzoeksinfrastructuur

NWO

Dutch Digital Competence Centres

Integrale aanpak voor digitalisering
in de wetenschap

Uitvoeringsplan investeringen
digitale onderzoeksinfrastructuur

NWO

- Funding to introduce or strengthen data and software support at Dutch research institutions (2019 & 2023)
  → 22/23 "**Local Digital Competence Centres**".

- 10 year project funding for domain-specific challenges (2022)
  → 3 "**Thematic Digital Competence Centres**".

- The community produced domain-specific roadmaps for the 3 TDCCs to guide their activities .

TDCC-LSH
Life Sciences & Health

TDCC-SSH
Social Sciences & Humanities

TDCC-NES
Natural & Engineering Sciences

Roadmaps from the three thematic DCCs – Digital Competence Centres

Between September 2021 and June 2022, three writing teams from the scientific field developed roadmaps. They were supported in this process by NWO secretaries. Researchers, large-scale infrastructures and supporting institutions could provide input to ensure the TDCC roadmaps are supported by the field.

Thematic DCCs: Tackling domain-specific challenges

TDCC-LSH
Life Sciences & Health

TDCC-SSH
Social Sciences & Humanities
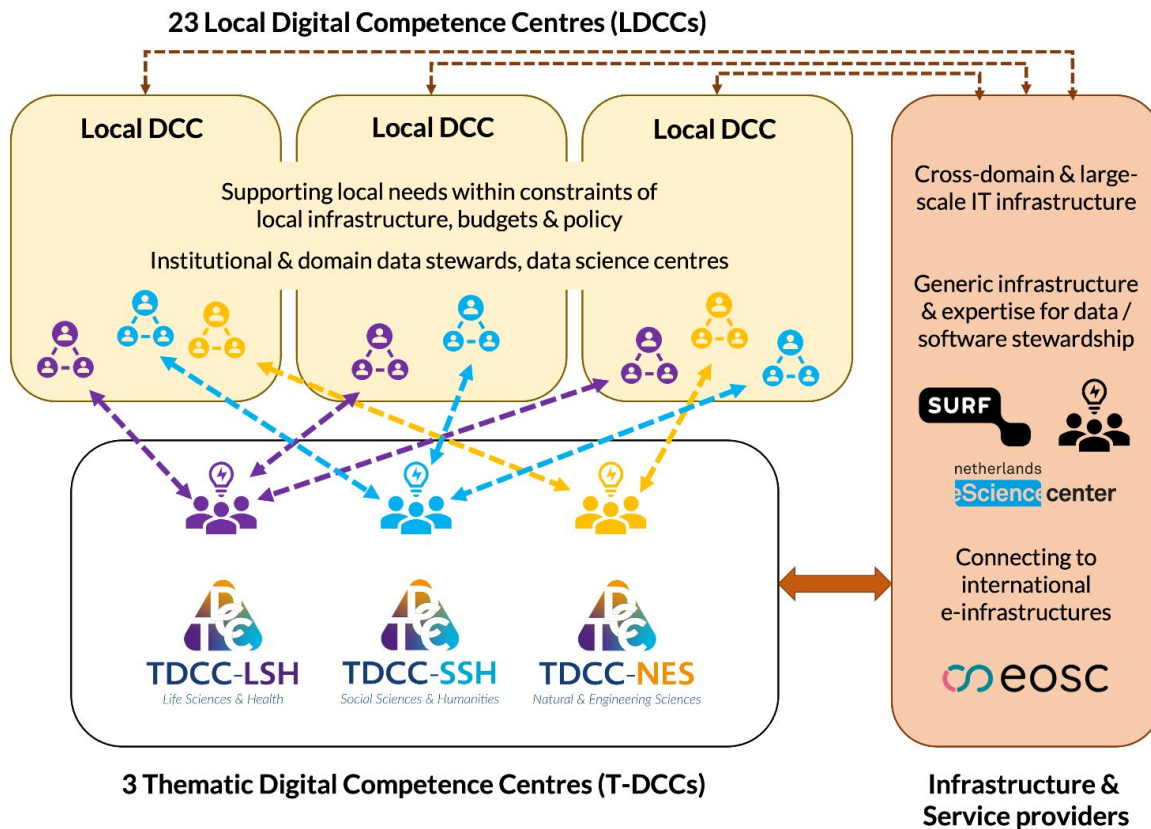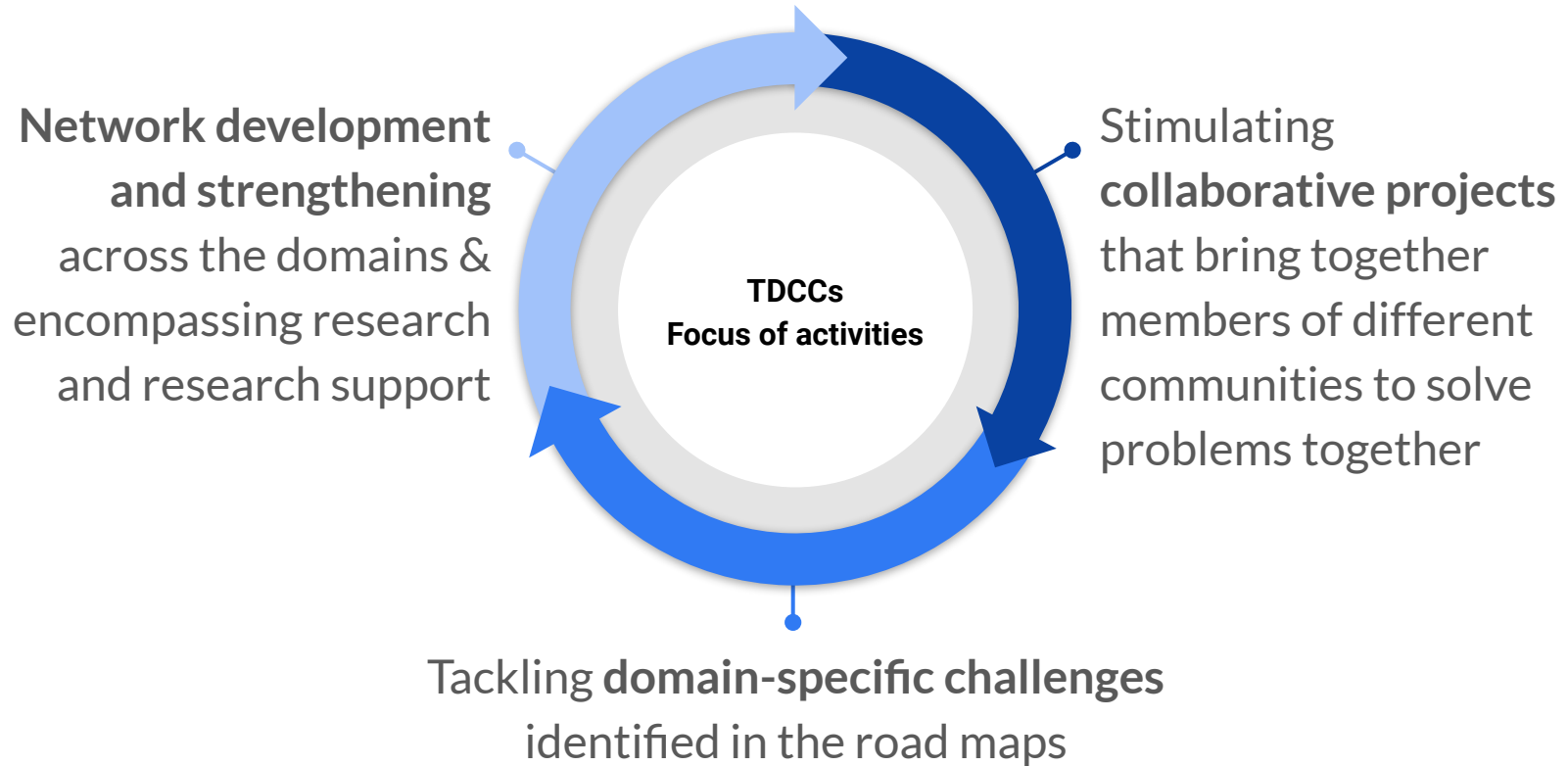
TDCC-NES
Natural & Engineering Sciences

Hosted by: health RI — enabling data driven health & life sciences

Data Archiving and Networked Services
DANS

4TU.ResearchData
SCIENCE · ENGINEERING · DESIGN | TUDelft

Advisory or Governing Boards representing the relevant domain stakeholders

Local and Thematic DCCs in the research landscape

Image adapted, original by Ruben Kok

TDCC focus of activities

Network development and strengthening across the domains & encompassing research and research support

Stimulating **collaborative projects** that bring together members of different communities to solve problems together

TDCCs
Focus of activities

Tackling **domain-specific challenges** identified in the road maps

TDCC network development and strengthening
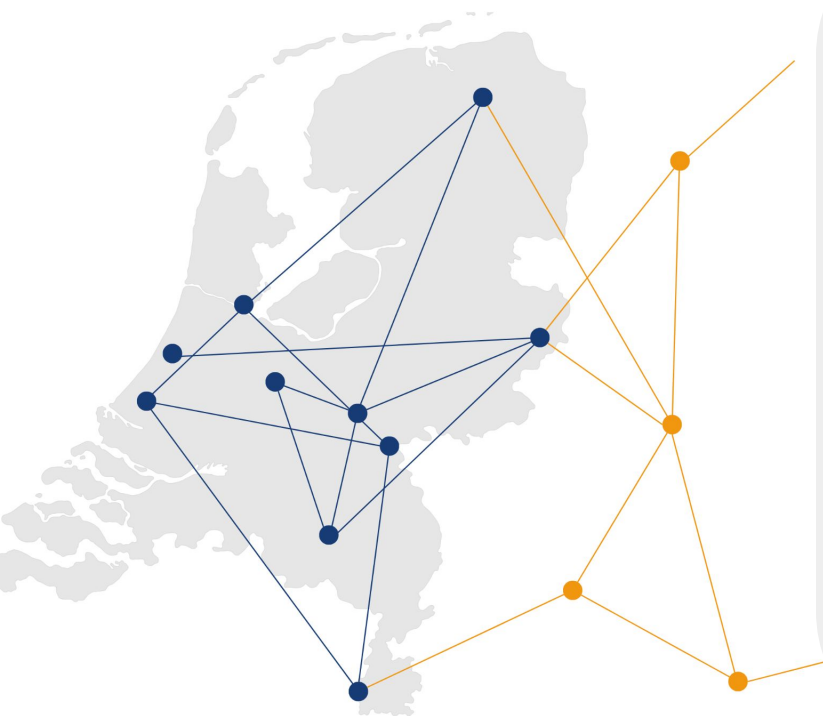
- Website; joint TDCC with domain-specific communication channels

- Leveraging existing networks and communities, like the national data stewards

- Roadshow: TDCC staff and local DCC and research staff exchange

- Events: national, domain-specific, and cross domain

- Developing international connections

TDCC Network activities - highlights

- ## Data Steward Interest Group (DSIG)
  - [started by DTL in 2017](#)
  - Active community (NL & beyond)
- ## Domain-specific DSIG meetings
  - Taking turns by NES, SSH, LSH
- ## Spotlight on: Data Stewards
  - Interviews with research data support professionals
  - https://tdcc.nl/category/spotlight-on/

- ## National event "[Teaming up Across Domains](#)"
  - 27 February 2024, Utrecht
  - 230 participants
  - Average evaluation score of 8!
  - [Event summary](#)
  - Organisers:
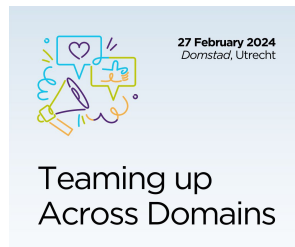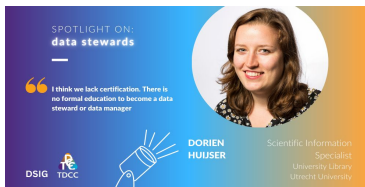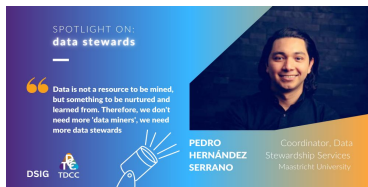
TDCC collaborative projects

- Budget per domain via NWO: **€ 800k per year** with **€ 950k initial bottleneck funding**
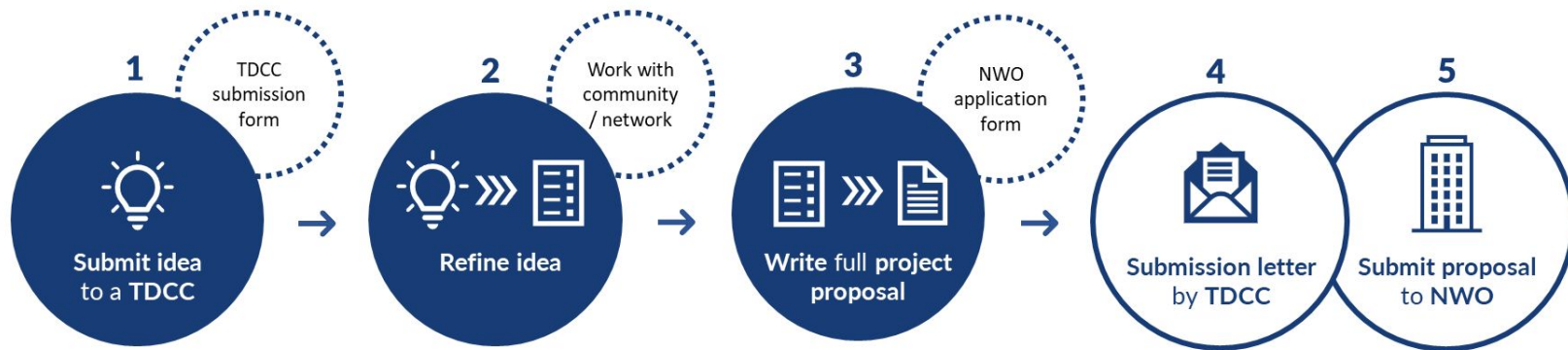
- Key aspects:
  - Proposals need to contribute to **solving challenges** as described in **TDCC roadmaps**,
  - Project teams must be collaborations across different stakeholders

TDCC-NES: 2 project examples

Bottleneck project — **Enabling Best Practices for Sustainable Software in the Natural & Engineering Sciences** — Leading institution: **Netherlands eScience Center**

NES bottlenecks addressed

| **Digital competencies and training** ✓ | Fragmented landscape | Interoperability of data and of workflows | **Long-term preservation and maintenance of research software** ✓ | Guidance about dealing with IP and legal issues | **Collaboration between disciplines across the domain for adoption of FAIR practices** ✓ |

Project financial beneficiaries

- ● NLeSC - Netherlands eSCience Centre
- ● UT - University of Twente
- ● 4TU.RD - 4TU.ResearchData
- ● KNMI - Royal Dutch Meteorological Institute
- ● TUD - Delft University of Technology

- ● UL - Leiden University
- ● RUG - University of Groningen

+ in kind contributions from
- ● UU - Utrecht University
- ● UL - Leiden University
- ● UG - University of Groningen

TDCC

Challenge project proposal in development

FAIR4ChemNL: Unifying and managing chemical research data-flows

Leading institution: **TU Delft**

NES Challenges addressed

FAIR data	**Sustainable software and e-science**	**Connections to the international activities**	**Long-term data archiving**	Locate computing capacity close to the storage	Human capital	**Cross-field collaborations**
✓	✓	✓	✓			✓
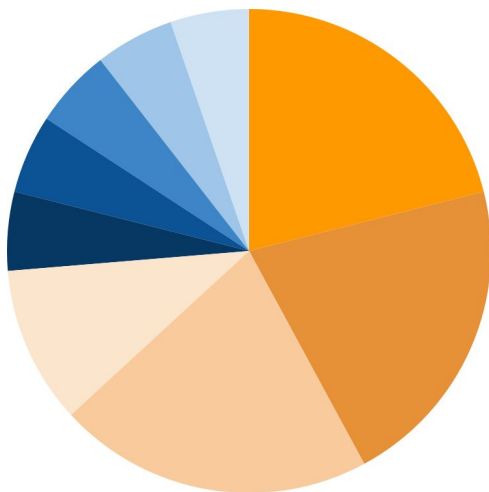
Current participants

- TUD - Delft University of Technology
- UU - Utrecht University
- UvA - University of Amsterdam
- SURF
- NLeSC - Netherlands eScienceCenter
- RUG - University of Groningen
- RU - Radboud University
- UL - Leiden University
- TU/e - Eindhoven University of Technology

Collaborating with

From Germany:

NFDI4Cat
NFDI for Catalysis-Related Sciences

FAIRmat

Within the Netherlands:

Fundamentals & Methods of Chemistry advisory committee

big chemistry

Reaching out to, in the UK:
And internationally:

PSDI
PHYSICAL SCIENCES DATA INFRASTRUCTURE

Materials Ontologies, RDA Task Group

NES

https://tdcc.nl/evenementen/fair4chemnl-workshop/

- [Projects](#) are quite diverse across many dimensions:
  - Bottom-up vs. top-down approach
  - Led by data stewards vs. led by infrastructure vs. led by researchers
  - High level (all of SSH) vs. specific sub-discipline (e.g. oral history)
  - Guidelines vs. trainings vs. national consultation vs. tooling development
  - …
- 23 disciplines under the SSH umbrella, therefore hard to capture all
- Intention to serve both main players as well as underserved (research) communities

(Excerpt) Examples for projects from Social Sciences & Humanities

Towards a FAIR-Enabling Approach to Research Integrity in Research Data Management

Cluster 1 - **FAIR data & software**

Involved partners and advisors from:

...*connecting to established processes like the guidelines of the Deans of the Social Sciences in the Netherlands (DSW)*

Leiden University, DSW Committee on Research Integrity in Research Data Management, University of Amsterdam, DANS, (...)

StoRe – Storing oral histories for future reuse across communities

Cluster 1 - **FAIR data & software**

Involved partners and advisors from:

...*researcher-led projects for certain sub disciplines*

Vrije Universiteit Amsterdam, Stichting Bevordering Maatschappelijke Participatie, Netherlands Institute of Sound and Vision, CLARIAH

Digital Social Sciences and Humanities Summer School on Research Software

Cluster 3 - **Knowledge Enhancement**

Involved partners and advisors from:

...*trainings and workshops about research software skills for SSH*

Netherlands eScience Center, Utrecht University CDH Research Software Lab, KNAW Digital Humanities Cluster, CLARIAH, ODISSEI, (...)

Combatting Bias: Guidelines for Creating Equitable Data in the Humanities

Figure 1: Combatting Bias Organisation

Cluster 4 - Addressing pressing issues

Involved partners and advisors from:

International ...projects involving international partners & expertise, Huygens Institute, Radboud University, University of Amsterdam, National Archives of the Netherlands, Open University of the Netherlands, Netherlands Institute of Sound and Vision, District Six Museum (SA), FAIR Expertise Hub (ODISSEI), Global Data Lab, HAICu project

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Beyond personal data: RDNL Training on hard-to-share research data for SSH early-career researchers

Cluster 3 - Knowledge enhancement
Cluster 4 - Addressing pressing issues

Involved ...training for researchers by well-established training network

Research Data Netherlands (RDNL), SURF, DANS, Promovendi Netwerk Nederland (PNN), ODISSEI, Leiden University

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Untangling FAIR Implementation in the Social Sciences & Humanities
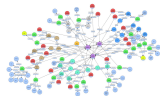
Cluster 1 - FAIR data & software
Cluster 2 - Raising Awareness

Involved...FAIR implementation on the level of large organizations, involving key players

ODISSEI, Erasmus University Rotterdam, DANS, Koniklijke Bibliotheek (KB), Netwerk Digitaal Erfgoed, Leiden University, SURF, SSHOC-NL, FAIR Expertise Hub (ODISSEI)

Strengthening the Dutch LSH FAIR data stewardship landscape – installing a national cohort of FAIR LSH fellows
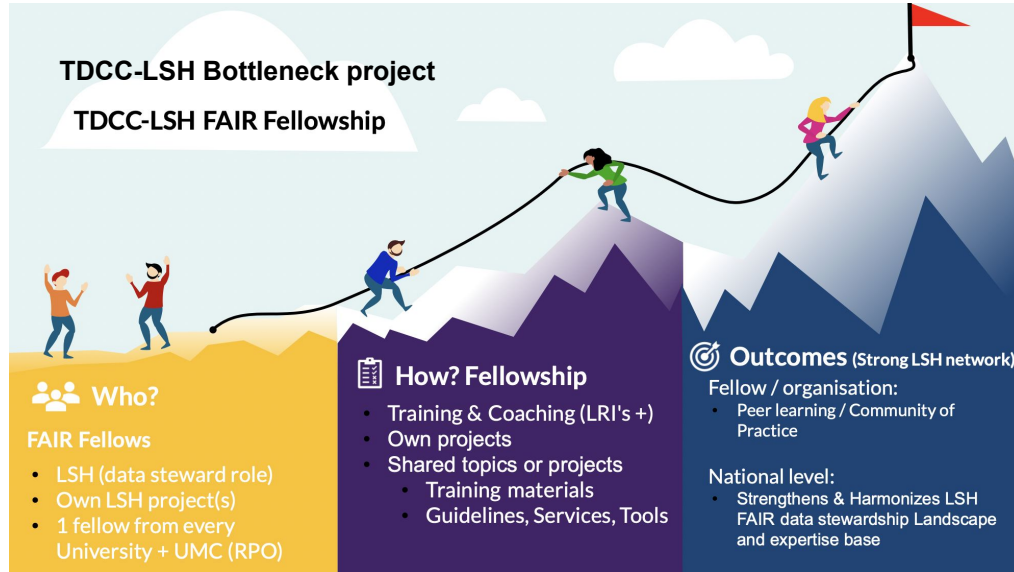
- Budget 840 keuro, duration 18 months

- Project submitted, under review with NWO

- Each RPO can place 0.2 fte fellow for 1 year

- Dedicated training programme

- Experts/coaches for areas:
  - *Microbial data (UNLOCK, WUR)*
  - *Biodiversity (ARISE, Naturalis)*
  - *Bio-imaging (NEMI and NLBioimaging, UL & UMCG)*
  - *Omics & Rare Diseases (UMCG/X-omics)*
  - *GOFAIR*
  - *Plant phenotyping (NPEC, WUR)*
  - *Health data (AUMC)*

TDCC-LSH projects in the pipeline

Ambitions TDCC-LSH
Strengthen good data stewardship and harmonise data access practises
Enhance the interoperability of digital solutions and resources
Strengthen the capacity and expertise base in digital research

- 3 community-driven, complementary projects, covering full LS&H domain
- got approved May 13, 2024 by TDCC-LSH Programme Board,
- will be submitted to NWO half June 2024
- tackling main TDCC-LSH roadmap challenges
  - **Tools framework for services, tools and workflows in digital Life Sciences and Health research**
    - Partners: 7 RPOs (representing ELIXIR-NL), Health-RI, SURF, NLeSc
  - **FAIR training**
    - Partners: 4 RPOs, Health-RI, endorsed by o.a. DSIG (data stewards interest group)
  - **Training the next generation of FAIR-aware and AI-savvy data scientists for the LSH domain**
    - Partners: 5 RPOs (representing Dutch bioinformatics/systems biology community BioSB), Health-RI

Workshop on the implementation of official data stewards job profiles for 3 types of research organisations in the Netherlands (April 2023 *)

nr	Recommendation	Status	Next steps
1	Formalization of job profile data steward	🙂🙂 🙂🔴	• Create clarity on the data stewardship tasks • Make open science achievements such as open data or software competitive to make the case for investing in data stewardship for (faculty) boards
2	Data stewards are well organized and easy to find	🙂	
3	Build data steward capacity	😐	• Team up with all stakeholders in your organization, including HR staff and senior researchers or deans who can act as ambassadors for data stewardship • Find funds for structural and sustainable data stewardship support
4	Ensure the availability of (certified) education and training of data stewards	😐😐 🔴🙂	Set up acknowledged professional training for data stewards and explore if a professional association is desirable (cf. software engineering societies or privacy officers associations)
5	Use job profiles for career perspective data stewards	😐😐 🙂😐	• Make FAIR and data stewardship meaningful by focusing less on compliance and more on societal responsibility • Allow data stewards time to be part of the research team and recognize their efforts as part of the team's work

Workshop Report blog

* 2 years after our NPOS-F report *Professionalising data stewardship in the Netherlands. Competences, training and education* (2021)

Supported by health RI

Towards implementation

Recommendations for Data Stewardship Skills, Training and Curricula with Implementation Examples from European Countries and Universities

EOSC Task Force Deliverable
https://zenodo.org/doi/10.5281/zenodo.10573891
January 2024
Netherlands Case Study, pages 37-41

EOSC Netherlands tripartite Event 2023 & TDCC

- Multiple initiatives have developed in the Dutch research data landscape: The Essentials for Data Support course (since 2013), development of the FAIR Principles (2014, published in 2016), strong national networks: DSIG (since 2017) and LCRDM (2018), a data stewardship competency framework that a.o. led to formal university job profiles (UFO) since 2021, and of course the LDCCs at the RPOs (2020).

- With national support three thematic DCCs for NES, SSH, and LSH, which started in September 2022, will focus on **domain specific data challenges and solutions** towards making research data FAIR and will bring together domain-specific research and data professionals of the RPOs, the national infrastructure projects (Roadmap), and will link to the domain specific European RIs and also to the EOSC.

- To be able to realise the adequate expertise and sufficient capacity of the required data professionals, it is crucial that all stakeholders - the EC, the national governments, science domains and the RPOs - work together in expanding adequate funding mechanisms and implementing (national) curricula and career paths for data professionals.

NL tripartite event 2023

Pitch Celia van Gelder on behalf of TDCC

| 10:30 - 11:10 | Panel: Institutional & disciplinary expertise and support. Local and Thematic Data Competence Centres. Opening statements of the panellists Discussion | Moderation: Ron Augustus (CIO and member board of directors, SURF) Panellists: Celia van Gelder (Training Programme Manager DTL/Network Manager TDCC Life Sciences & Health) Jeroen Rombouts (Coordinator Research Data Management EUR/chair IN-DCC) Volker Beckman (co-chair, EOSC-SB) Javier Lopez Albacete (Policy Officer at Open Science Unit, Directorate General for Research and Innovation, EC) Loek Brinkman (Projectmanager DANS, Open Science Communities) |

In conclusion, the 3 TDCCs…

- ○ Play an important part in the people infrastructure in the Netherlands
- ○ Bring together the stakeholders in their respective domains SSH, NES, LSH
    - ■ And work together cross-domain where relevant
- ○ Organize and facilitate their respective communities, and the data stewards in those communities to jointly tackle the identified challenges, both by a) network activities as well as b) joint/collaborative projects
- ○ Work synergetically with existing networks in the Netherlands (DSIG, LCRDM, RDA-NL, OSC)
- ○ Collaborate closely with SURF and eScienceCenter
- ○ Are building strong relationships with
    - ■ the Dutch LDCCs
    - ■ the GWIs (Large scale research infrastructures)
- ○ Are well connected to, or aim to connect with, the international ecosystem (EOSC, ESFRIs, ..)

Contact us!

TDCC-SSH
Social Sciences & Humanities

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🔗 Newsletter

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