

National FAIR Data programme 2030

Key objectives

NPOS Strategy for FAIR Data
18 May 2020



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Open Science vision 2030 (draft, May 2021)

By 2030 we have taken a quantum leap to facilitate society with seamless access to scientific results.

The traditional distinctions between data and publications will diminish. Journals will cease to exist in their current form. Data will be at the core of scientific output, supplemented by enriched meta data and publications, according to the FAIR principles.

Public stakeholders will be able to control the entire research life cycle, including the necessary tools and services.

Protected data sharing and new ways to disseminate research results are at the heart of this process.

It will increasingly be possible to combine disciplinary findings and tackle the larger, more global research questions.

In this approach openness, where possible, will lead to greater transparency and will improve the quality and reliability of science. Thus, it will make a crucial contribution to trace fake data and misinformation.

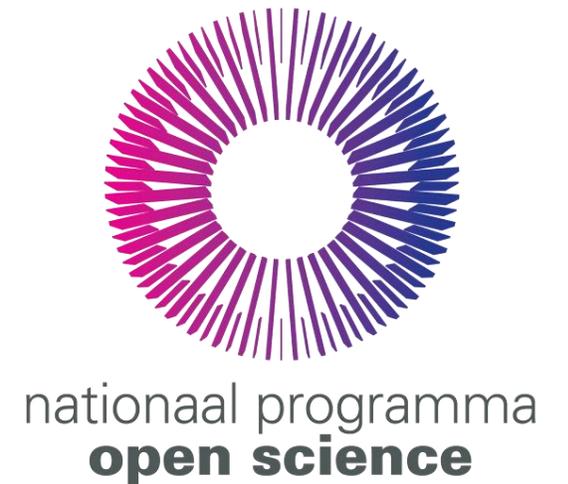
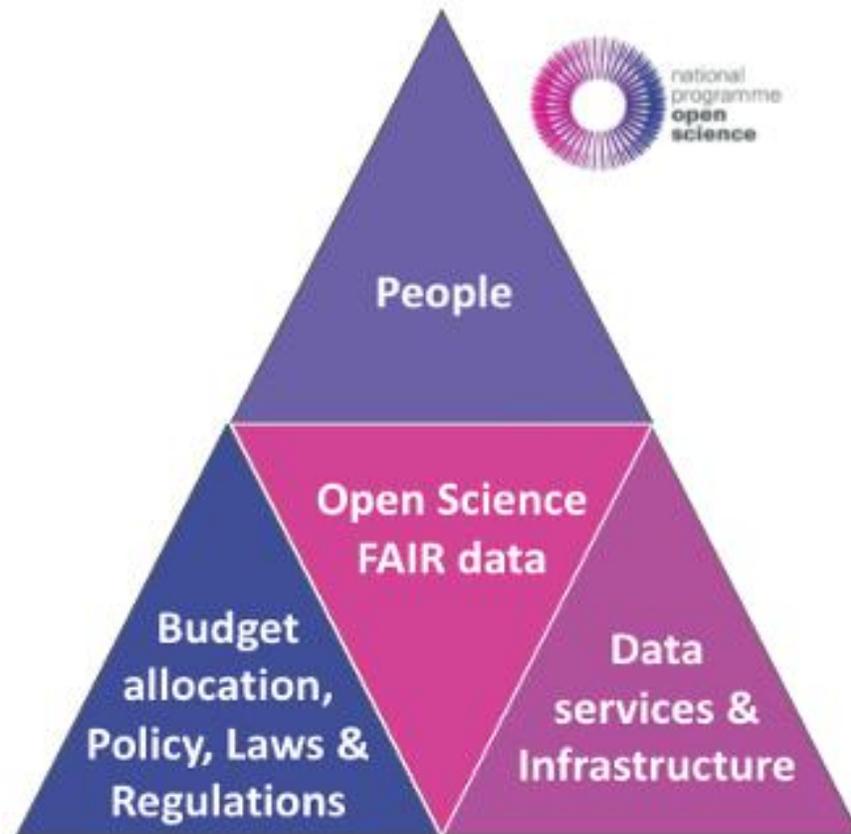
Enabling the sovereign interaction of research output of any form will increase the value of science.

Individuals, be it researchers or citizens, organisations and countries can ultimately all be engaged in such a publicly governed national and global pool of scientific knowledge.

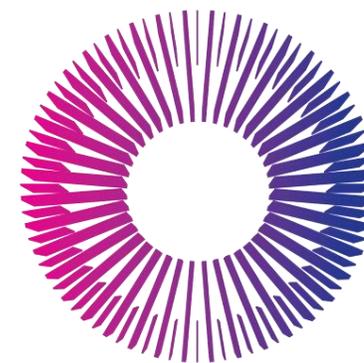


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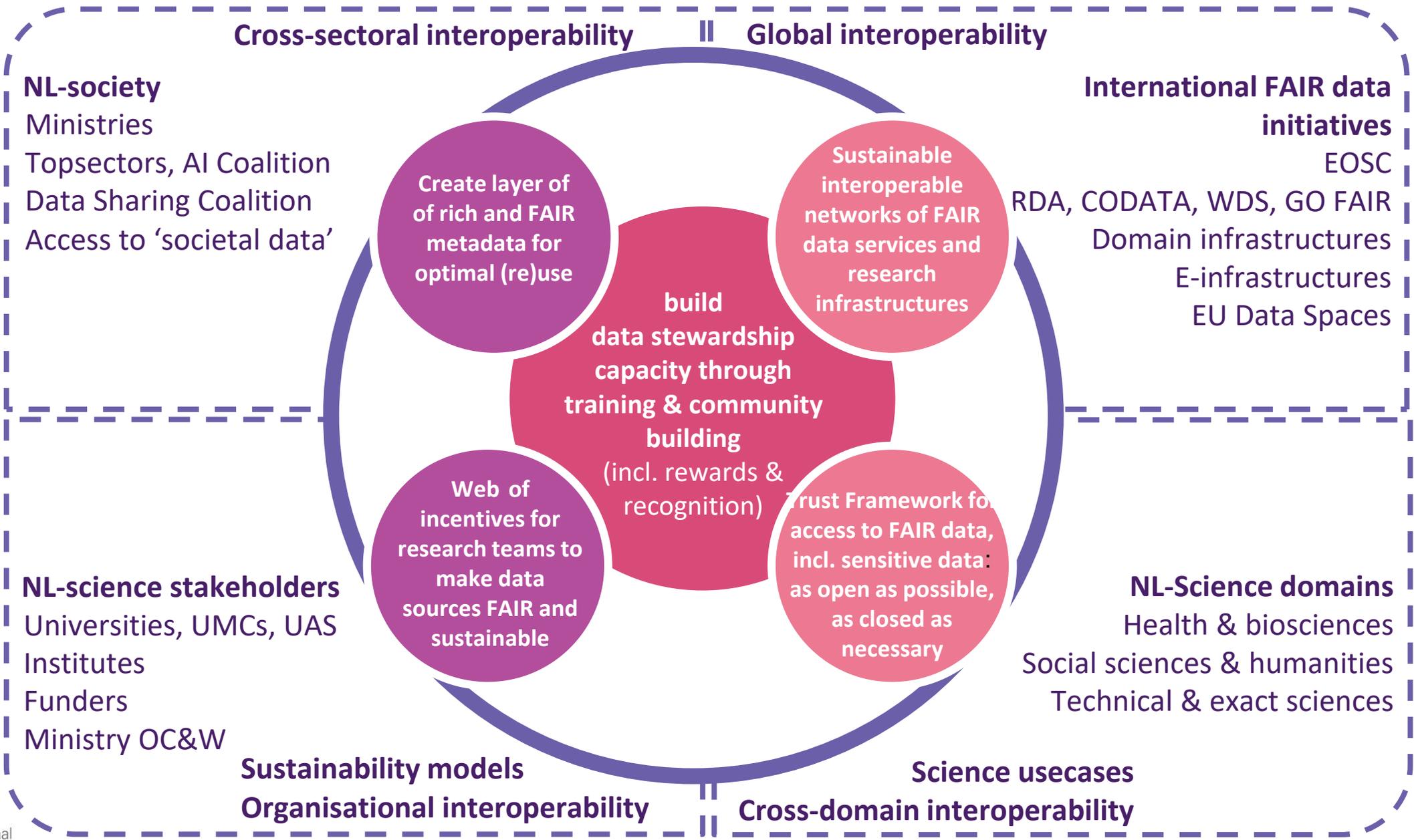
Open Science transition requires national strategy for FAIR data



NPOS FAIR Data Table to build the national FAIR strategy



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Vision 2030 FAIR Data

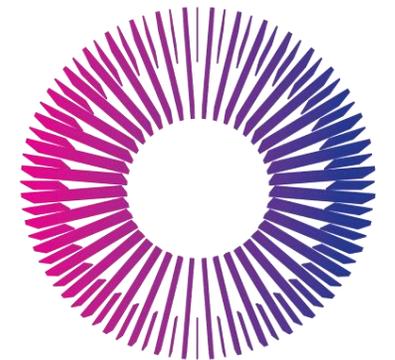
‘FAIR-compliant federated data ecosystem’

In 2030, Dutch researchers are adequately supported and knowledgeable about handling FAIR data in their institutional, national and international setting, also in view of the use of advanced solutions in data science and A.I.

A federated, seamless digital infrastructure enables them to easily find, access and combine interoperable datasets, software and other research objects in order to process, share, analyse, publish and eventually archive FAIR research data for verification and reuse.

The FAIR data ecosystem in 2030

- ▶ The national data ecosystem is built as a supported network of FAIR data sources and services, set up according to a FAIR digital object architecture as part of the EOSC. Data sources are only centralised when necessary and available mostly for distributed analysis and learning.
- ▶ Local organisations and domain/discipline-specific initiatives are facilitated to work with shared minimal standards to achieve machine actionability and interoperability
- ▶ Rich and machine-readable FAIR metadata allow judgement of usefulness, quality and conditions for access via national, institutional and domain-specific data infrastructures
- ▶ Metadata is always FAIR (by design) and open by default. All underlying data is FAIR (by design) where possible, with restrictions for access where necessary
- ▶ A trust framework of open standards and public governance guarantee prevention of vendor lock-in or potential monopolies by individual public or private entities



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Building data stewardship capacity through training and community building

NPOS Strategy for FAIR Data
18 May 2020



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Professionalising data stewardship: competences, training and education

Objectives



National coordination on the competences and learning outcomes



A well-annotated and searchable overview of training

Deliverables



Scoping document: target audience & glossary



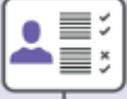
Case studies for training and education, incl. certification



Competences of data stewards, incl. human resource (HR) profiles (UFO, FUWAVAZ, Hay)



Inventory of training resources, including pilot annotation with competences



Design for a data steward skills tool, including (self-)assessment & pointers to training resources

Long term ambition



Endorsement of overview of competences by national stakeholders



Towards national framework(s) for competences



Towards national framework(s) for curriculum for data professionals



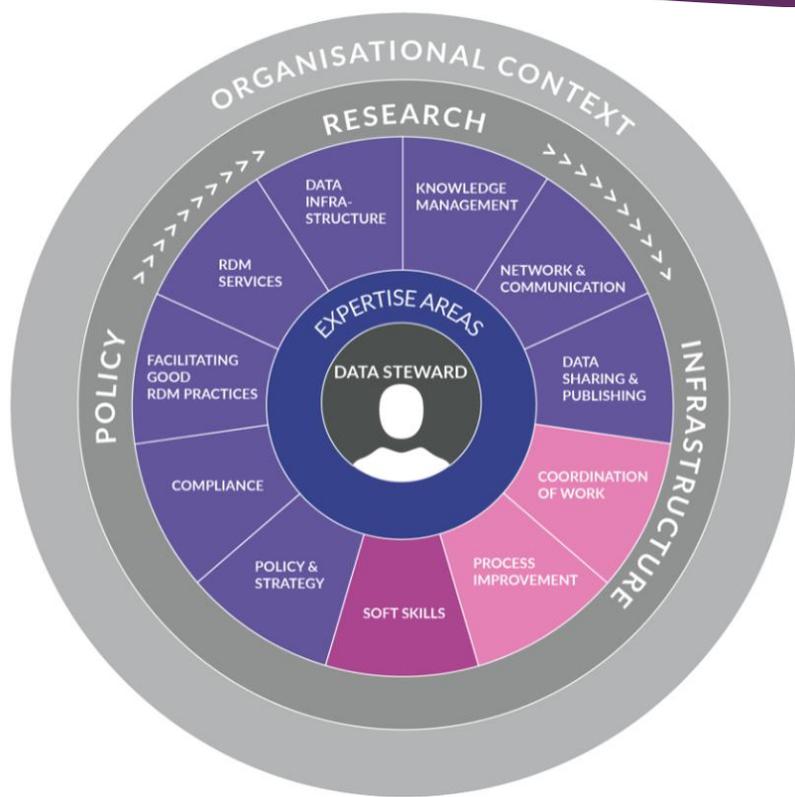
Data steward skills tool development



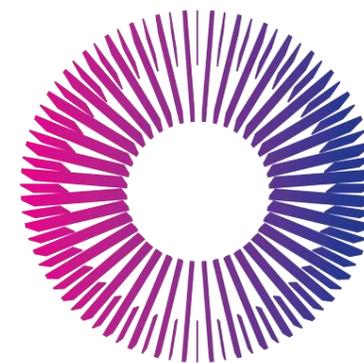
Strategy for tool dissemination

From NPOS-project F report. *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>

Data stewardship capacity is key to FAIR Data



- “Capacity” concerns both quantity (“how many”) and quality (“what skills & competences”).
- Data stewards come in many flavours. Institutions and research teams determine the types of data stewards they need



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NPOS-F report: (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> Image: p.38



Ambition of NPOS FAIR Data

3 highly skilled data stewards for 100 researchers by 2026, and 5 per 100 by 2030

Investments required will make Dutch institutions ready for (inter)national requirements, reduce costs of not having data FAIR and greatly benefit science

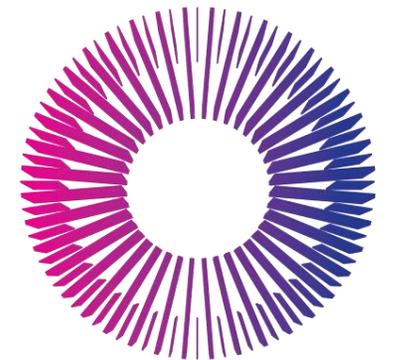
Based on:

1] OECD (2020), "Building digital workforce capacity and skills for data-intensive science", OECD Science, Technology and Industry Policy Papers, No. 90, OECD Publishing, Paris,

<https://doi.org/10.1787/e08aa3bb-en>

2] [Implementation Roadmap for the European Open Science Cloud \(2018\)](#)

3] Cost-benefit analysis for FAIR research data; cost of not having FAIR research data, European Commission, PWC report. DOI: [10.2777/02999](https://doi.org/10.2777/02999)



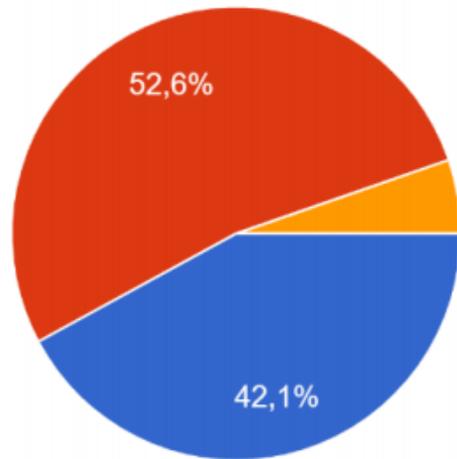
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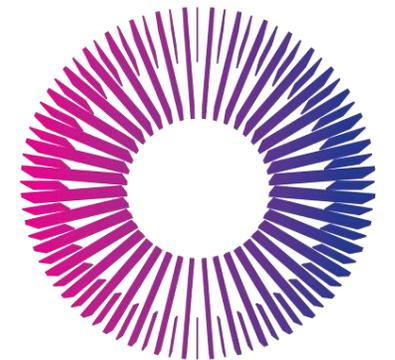
Dutch institutions are far from having 3-5 FTEs to 100 researchers

12. How many DataStewards/Managers/Research Supporters (strategic, generic, embedded, centrally)(but not RSE or data scientist)does your organization have in relation to scientific staff ?

19 antwoorden



- 1 fte in relation to 500 scientific staff, including PhD (or even less).
- 1 fte in relation to 100-500 fte scientific staff (including PhD).
- 1 fte or more in relation to scientific 100 fte scientific staff (including PhD).



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Results of LCRDM “Do I PASS for FAIR” survey: <https://www.fairsfair.eu/sites/default/files/02%20-%20LCRDM%20FAIRsFAIR%20-%20Miedema.pdf>



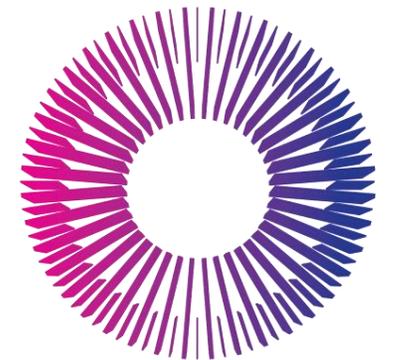
How? Impulse funding in 2022-2026 for data stewardship capacity building

Three levels:

- ▶ National level: domain-agnostic training for trainers and data stewards
- ▶ Domain level: domain-specific training for trainers*, data stewards and researchers
- ▶ Institutional level: data management training for researchers and data stewardship capacity building

2 phases

- ▶ Phase 1 ('22-'23): Urgent training capacity building at national & domain level
- ▶ Phase 2 ('23-'26): Recruitment and training of the data stewards and training of the researchers

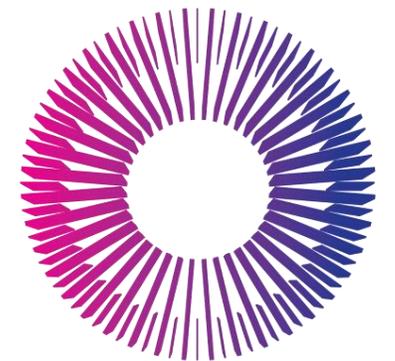
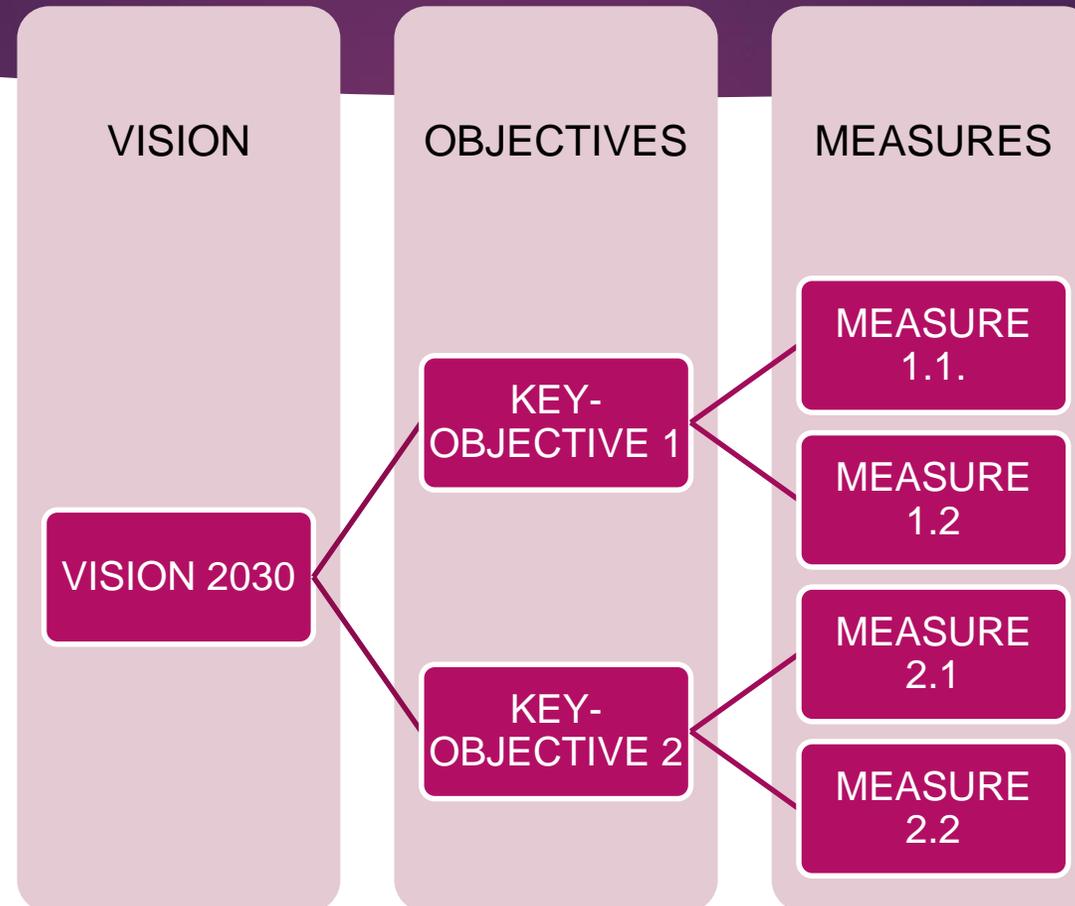


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* - “trainers” refers to both training personnel and data stewards specialising in training

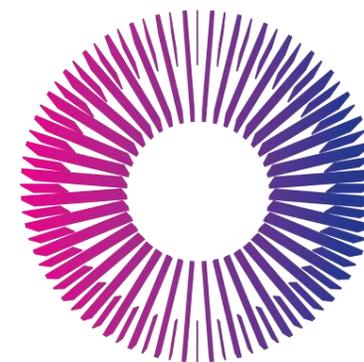


Set-up (make part of NPOS2030 MAP)



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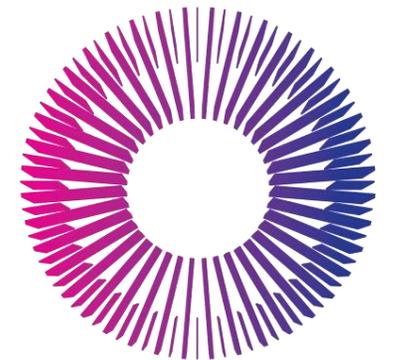
NPOS FAIR Data Table to build the national FAIR strategy



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Five key objectives to realise the 2030 vision

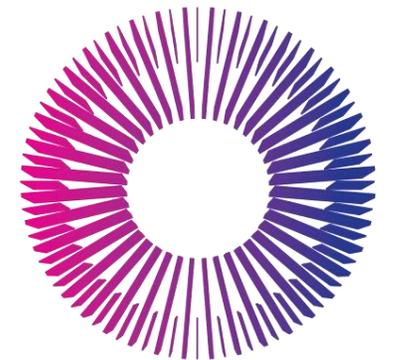
1. Build professional community of well-trained data stewards.
2. Create a web of incentives for research teams to ensure that the bulk of research data (and associated software and other research objects) is made FAIR by design, published and long-term preserved.
3. Support and guide the generation of sufficiently rich, standardized and machine-actionable FAIR metadata to guarantee optimal (re)use.
4. Enable sustainable interoperable networks of FAIR data services and research infrastructures at the domain level, institutional level and national level
5. Foster the development of a national trust framework for access to FAIR data, including (privacy-)sensitive and confidential data, in synergy among societal stakeholders



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Measures to implement the FAIR data key objectives

- ▶ Objective 1: Professional community of well-trained data stewards
 - ▶ Measure 1.1 Build training capacity [Deliverables, KPI's, required budget]
 - ▶ Measure 1.2 Hire and train data Stewards [Deliverables, KPI's, required budget]
 - ▶
- ▶ Etc.



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