



FAIRsFAIR

Fostering Fair Data Practices in Europe

Facilitating FAIR Awareness Training

Launch of the new FAIR-Aware functionality

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@DANS_knaw_nwo | @FAIRsFAIR_eu | #FAIRAwareTool

@OpenScienceFAIR | #OSFAIR2021

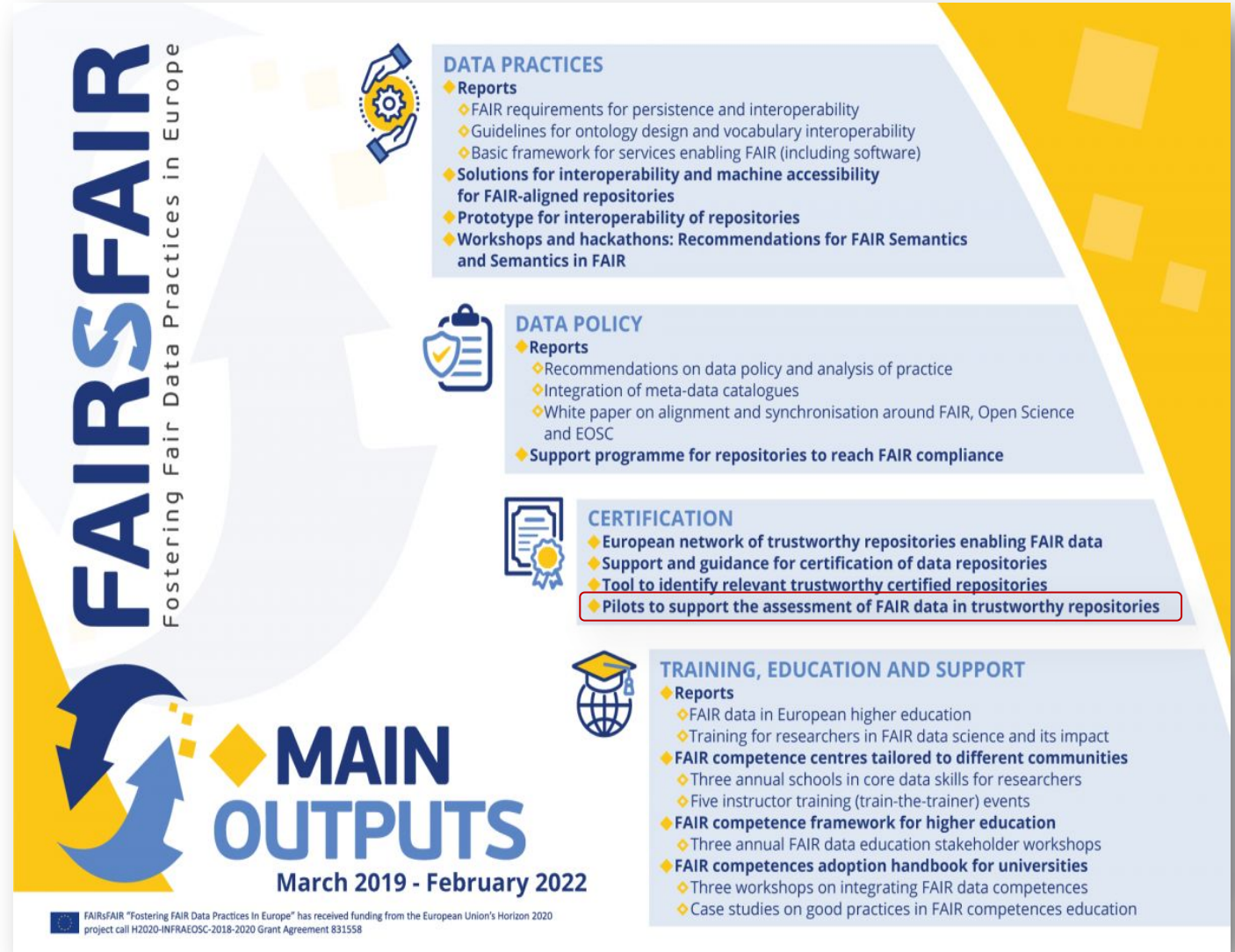


FAIR-Aware



FAIRsFAIR - Fostering FAIR data practices in Europe

- Goal: Practical solutions for the use of FAIR principles throughout the research data life cycle
- Budget: €10 million
- Duration: 2019-2022
- Partners: 22 partners from 8 EU member states



FAIRSF AIR
Fostering Fair Data Practices in Europe

DATA PRACTICES

- ◆ Reports
 - ◆ FAIR requirements for persistence and interoperability
 - ◆ Guidelines for ontology design and vocabulary interoperability
 - ◆ Basic framework for services enabling FAIR (including software)
- ◆ Solutions for interoperability and machine accessibility for FAIR-aligned repositories
- ◆ Prototype for interoperability of repositories
- ◆ Workshops and hackathons: Recommendations for FAIR Semantics and Semantics in FAIR

DATA POLICY

- ◆ Reports
 - ◆ Recommendations on data policy and analysis of practice
 - ◆ Integration of meta-data catalogues
 - ◆ White paper on alignment and synchronisation around FAIR, Open Science and EOSC
- ◆ Support programme for repositories to reach FAIR compliance

CERTIFICATION

- ◆ European network of trustworthy repositories enabling FAIR data
- ◆ Support and guidance for certification of data repositories
- ◆ Tool to identify relevant trustworthy certified repositories
- ◆ Pilots to support the assessment of FAIR data in trustworthy repositories

TRAINING, EDUCATION AND SUPPORT

- ◆ Reports
 - ◆ FAIR data in European higher education
 - ◆ Training for researchers in FAIR data science and its impact
- ◆ FAIR competence centres tailored to different communities
 - ◆ Three annual schools in core data skills for researchers
 - ◆ Five instructor training (train-the-trainer) events
- ◆ FAIR competence framework for higher education
 - ◆ Three annual FAIR data education stakeholder workshops
- ◆ FAIR competences adoption handbook for universities
 - ◆ Three workshops on integrating FAIR data competences
 - ◆ Case studies on good practices in FAIR competences education

MAIN OUTPUTS
March 2019 - February 2022

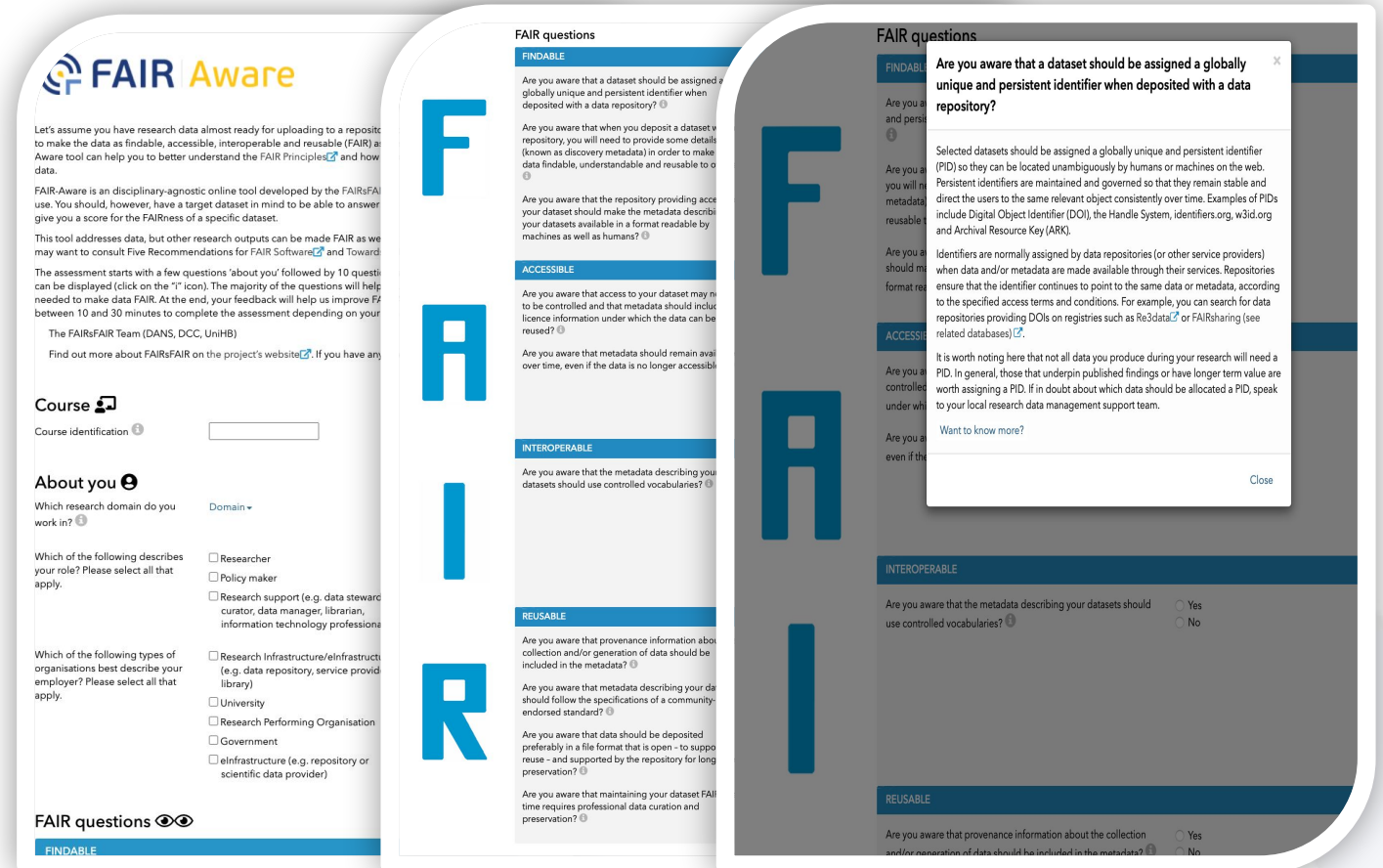
FAIRSF AIR "Fostering FAIR Data Practices In Europe" has received funding from the European Union's Horizon 2020 project call H2020-INFRAEOSC-2018-2020 Grant Agreement 831558

Image source: <https://www.fairsfair.eu>

FAIR-Aware



- For researchers and data stewards
- Online tool to raise awareness and educate on the FAIR data principles
- 10 simple questions with practical tips to improve data FAIRness before deposit



The image displays three overlapping screenshots of the FAIR Aware online tool. The leftmost screenshot shows the main landing page with the FAIR Aware logo, a 'Course' identification field, and 'About you' section with multiple-choice questions. The middle screenshot shows the 'FAIR questions' section, which is divided into four categories: FINDABLE, ACCESSIBLE, INTEROPERABLE, and REUSABLE. Each category contains a question with a 'Yes/No' response option. The rightmost screenshot shows a pop-up window titled 'Are you aware that a dataset should be assigned a globally unique and persistent identifier when deposited with a data repository?'. The pop-up contains explanatory text about PIDs and a 'Close' button.

→ <https://fairaware.dans.knaw.nl/> | <https://youtu.be/TkxSXxkqhfY>

How can you make new data more FAIR?

- Use resources to increase your knowledge and practical understanding (develop FAIR skills!)
- Leave feedback about your experience and how the tool can be improved
- Spread the word!

Feedback

Please answer the four questions below to help us improve the tool and make it even more relevant for the community.

- Which of the following issues do you find hard to understand and/or to answer?

1. Globally unique persistent identifier (PID)



2. Metadata for citation and discovery

Thank you for your participation!



Awareness:

High (8/10)

Willingness to comply:

Low (27/50)

Current status

- Continuous development throughout FAIRsFAIR
- Focus on improving user-friendliness, guidance information, new functionalities
- Dissemination in different communities

One year of ...



Your first step towards a FAIR dataset

over 200 users!

"A very nice tool with striking simplicity"
- Research Supporter, Linguistics/Literary Studies

Who are the users?

Most of our users are researchers or research supporters, but funders, publishers and policy makers also use the tool.



Most users work at universities, but the tool has also been used by people at RPOs, (e)infrastructures, funding bodies, government institutions, and publishers.

Users come from all different domains, the most being from the social sciences & humanities and life sciences. Because of the discipline-agnostic approach FAIR-Aware can reach all different communities!



What do they think?

"I found this tool very useful and clear. I will forward it to researchers in my community to bring clear and easy information for them in order to better understand FAIR."
- Research Supporter

Feedback from users has shown that the Interoperability principle, regarding the use of semantic vocabularies in metadata, is the hardest to grasp. We use this information to create more informative guidance on the topic.



81% of users agree that FAIR-Aware helped raise their awareness and understanding of the FAIR data principles.
Nice!

Visit fairaware.dans.knaw.nl to try the tool yourself!

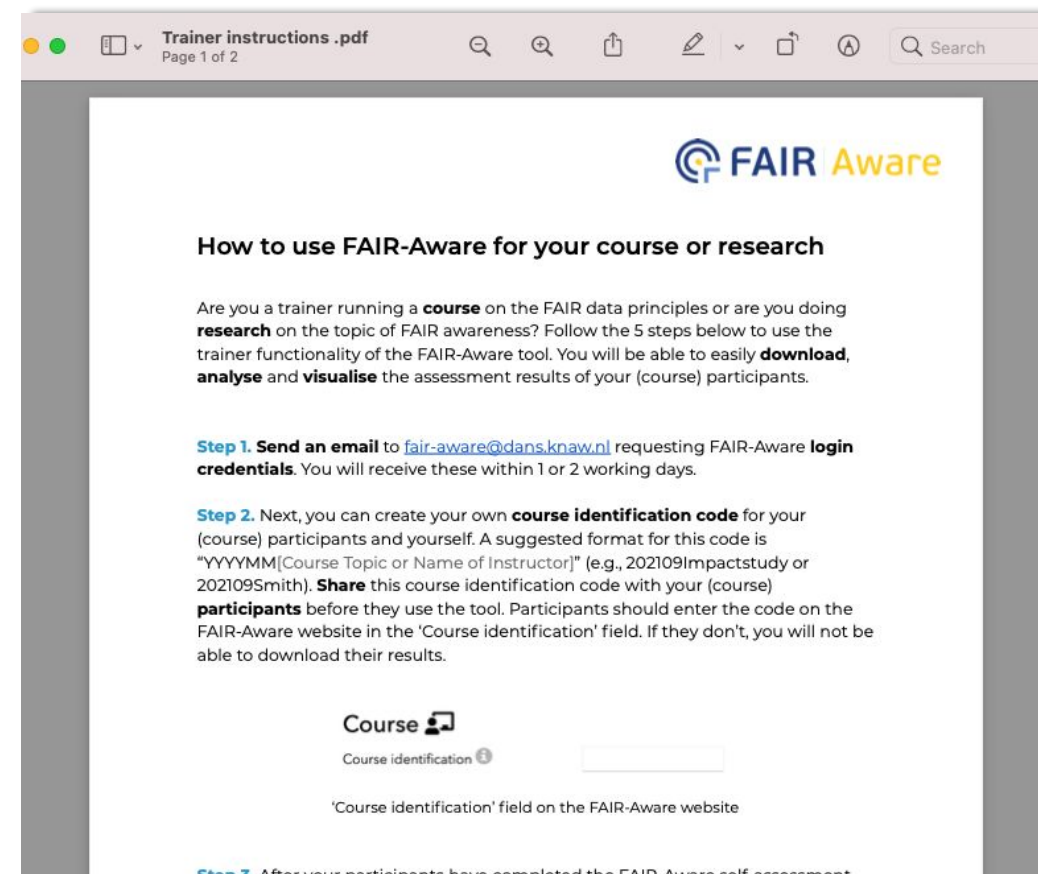
FAIR-Aware is a service of the FAIRsFAIR project | June 2021

FAIR-Aware for training



Step 1: Get in contact!

- Send an email to:
fair-aware@dans.knaw.nl
- You will receive:
 - Login credentials
 - The instruction manual



→ Instruction manual can also be downloaded here: <https://bit.ly/FAIRAwareInstr>

Step 2: Design a course code

- Determine a unique **course code**
 - Recommended: YYYYMM[Event] or YYYYMM[NameofTrainer]
- Communicate this to your user base

Find out more about FAIRsFAIR on the project's website [🔗](#). If you have any questions, drop us an e-mail.

Course 

Course identification 

About you 

Which research domain do you

Step 3: Let your users use the tool

- Make sure they fill in your Course Code in the field
- Average duration: 10-30 minutes
- Answers need to be submitted to be included
- **NB!** FAIR-Aware does not want to process personal data. Do not use the feedback fields in the tool for personal communication.

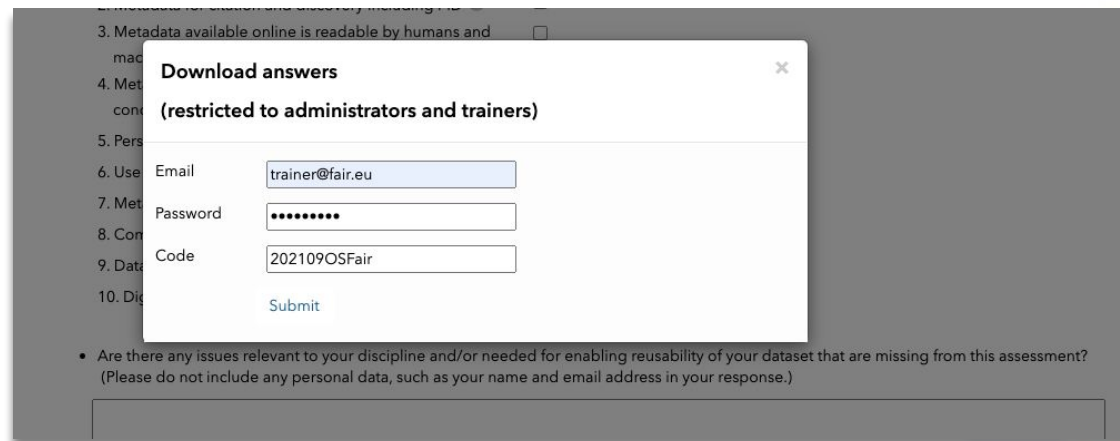
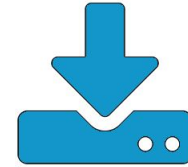
A rectangular button with a light blue border and a white background. On the left side, there is a blue arrow icon pointing to the right. To the right of the arrow, the word "Submit" is written in a blue, sans-serif font.

→ Link to tool: <https://fairaware.dans.knaw.nl/>

→ Link with extra information: <https://www.fairsfair.eu/fair-aware>

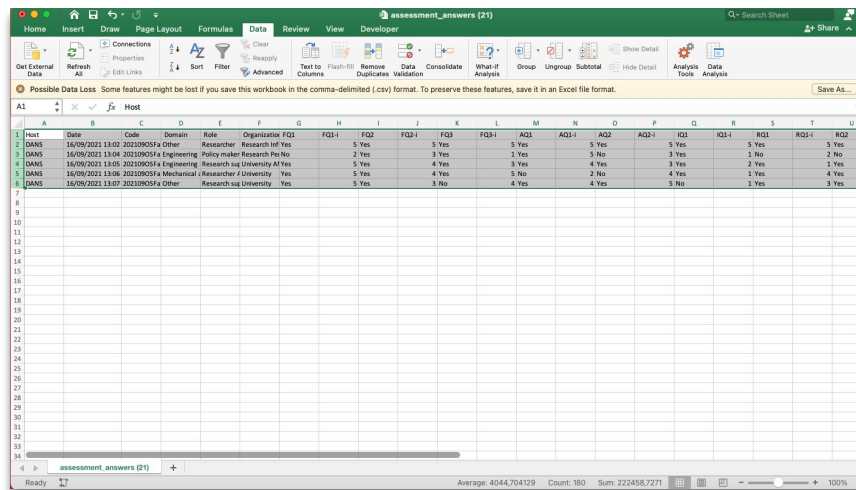
Step 4: Download the results

- Go to <https://fairaware.dans.knaw.nl/> yourself
- Click download button (bottom left corner)
- Fill in the **login credentials** you received and your **course code**
- Results will be downloaded in .csv file

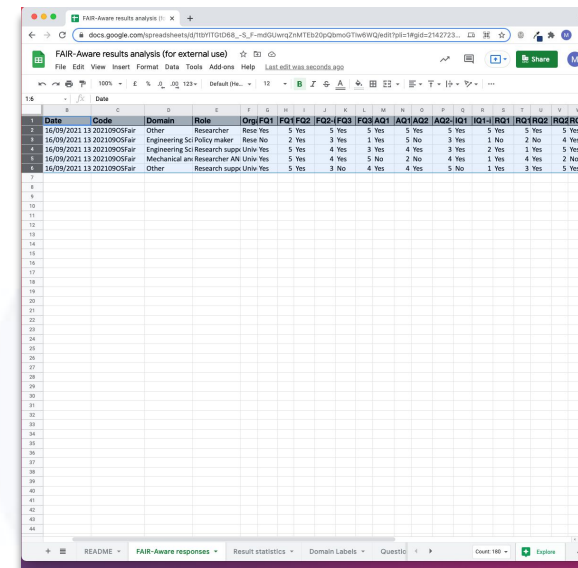
A screenshot of a web application interface. A modal dialog box titled "Download answers" is centered on the screen. The dialog has a close button (X) in the top right corner. Below the title, it says "(restricted to administrators and trainers)". There are three input fields: "Email" with the value "trainer@fair.eu", "Password" with masked characters "*****", and "Code" with the value "202109OSFair". A "Submit" button is located at the bottom of the dialog. In the background, a list of assessment questions is visible, including "3. Metadata available online is readable by humans and", "4. Metadata available online is machine-readable", "5. Personal data is protected", "6. Use of personal data is limited to the purpose of the assessment", "7. Metadata is available online", "8. Content is available online", "9. Data is available online", and "10. Data is available online". Below the dialog, there is a question: "Are there any issues relevant to your discipline and/or needed for enabling reusability of your dataset that are missing from this assessment? (Please do not include any personal data, such as your name and email address in your response.)" with a text input field below it.

Step 5: Import results

- Open the downloaded file
- Optionally: convert to right format (depending on software used)
- Analyse yourself or Copy to **ready-made template** (link in instruction manual)



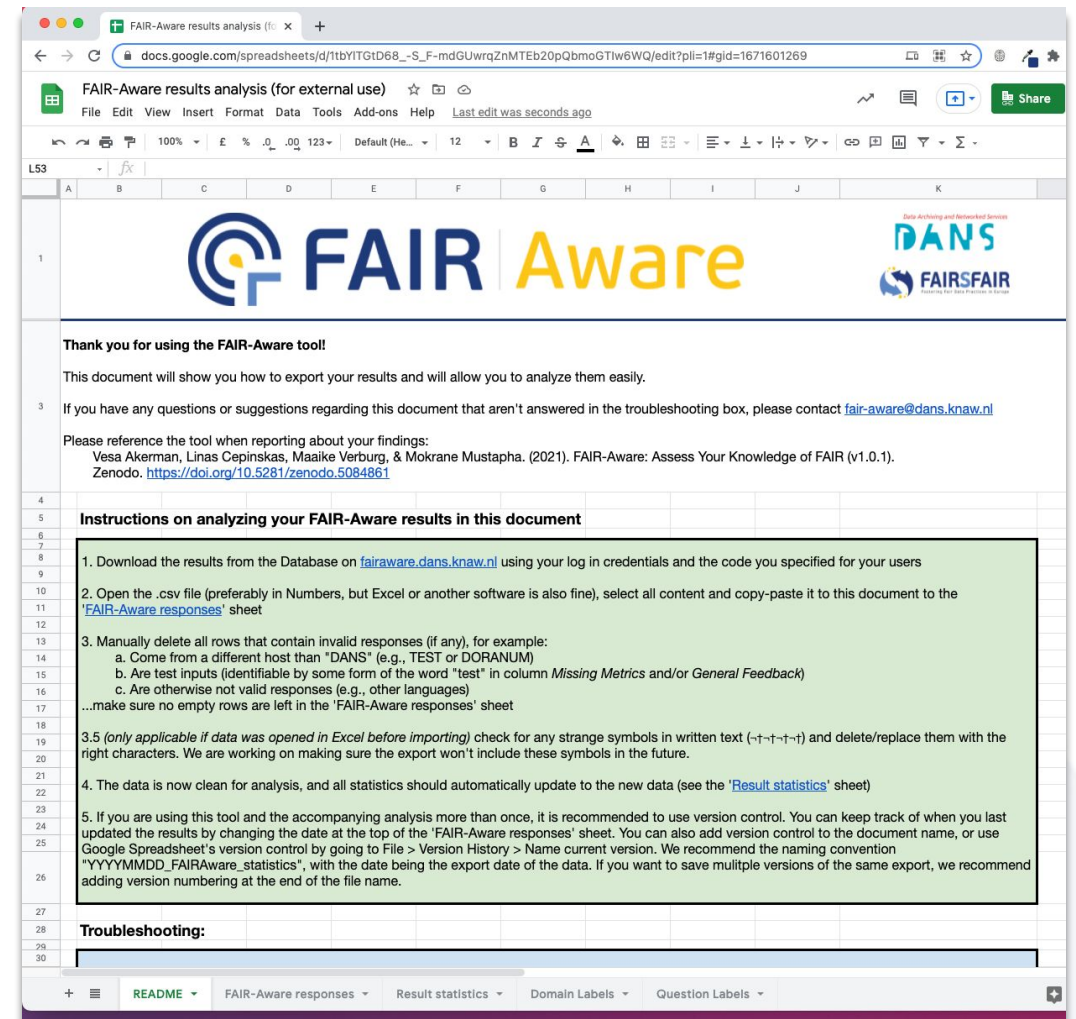
Host	Date	Code	Domain	Role	Organization	FQI-1	FQI-2	FQI-3	FQI-4	AQI-1	AQI-2	AQI-3	RQI-1	RQI-2	RQI-3	RQI-4	
DANS	16/09/2021 13:02	20210905f	Other	Researcher	Research Inf	5	Yes	5	Yes	5	Yes	5	Yes	5	Yes	5	Yes
DANS	16/09/2021 13:04	20210905f	Engineering	Policy maker	Research Per No	2	Yes	3	Yes	3	Yes	5	No	3	Yes	1	No
DANS	16/09/2021 13:05	20210905f	Engineering	Research sup	University	5	Yes	4	Yes	3	Yes	4	Yes	3	Yes	2	Yes
DANS	16/09/2021 13:06	20210905f	Mechanical	Researcher / University	Research sup	5	Yes	4	Yes	5	No	2	No	4	Yes	1	Yes
DANS	16/09/2021 13:07	20210905f	Other	Research sup	University	5	Yes	3	No	4	Yes	4	Yes	5	No	1	Yes

Date	Code	Domain	Role	Org/FQ1	FQ1/FQ2	FQ2/FQ3	FQ3/AQ1	AQ1/AQ2	AQ2/RQ1	RQ1/RQ2	RQ2/RQ3		
16/09/2021 13:02	20210905f	Other	Researcher	Rese	5	Yes	5	Yes	5	Yes	5	Yes	
16/09/2021 13:04	20210905f	Engineering	Sci Policy maker	Rese	2	Yes	3	Yes	1	Yes	5	No	
16/09/2021 13:05	20210905f	Engineering	Sci Research sup	Univ	5	Yes	4	Yes	3	Yes	4	Yes	
16/09/2021 13:06	20210905f	Mechanical en	Researcher / Uni	Yes	5	Yes	4	Yes	5	No	2	No	
16/09/2021 13:07	20210905f	Other	Research sup	Univ	Yes	5	Yes	3	No	4	Yes	4	Yes

Step 6: Analyse

- Quick and easy overview of your users' responses
- Simply enter data, graphs will update
- README page with instructions and troubleshooting tips
- Personal copy, edit however you like



FAIR-Aware results analysis (for external use)

Thank you for using the FAIR-Aware tool!

This document will show you how to export your results and will allow you to analyze them easily.

If you have any questions or suggestions regarding this document that aren't answered in the troubleshooting box, please contact fair-aware@dans.knaw.nl

Please reference the tool when reporting about your findings:
Vesa Akerman, Linas Cepinskas, Maaïke Verburg, & Mokrane Mustapha. (2021). FAIR-Aware: Assess Your Knowledge of FAIR (v1.0.1). Zenodo. <https://doi.org/10.5281/zenodo.5084861>

Instructions on analyzing your FAIR-Aware results in this document

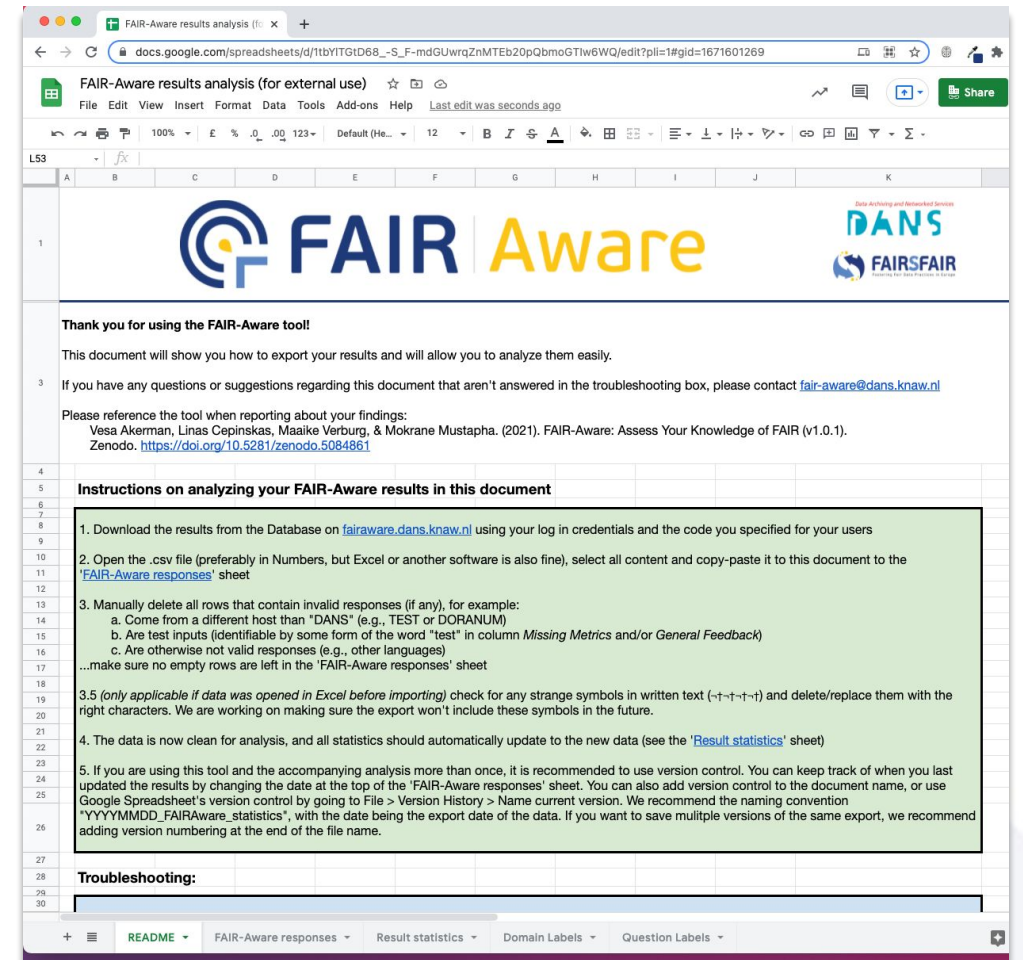
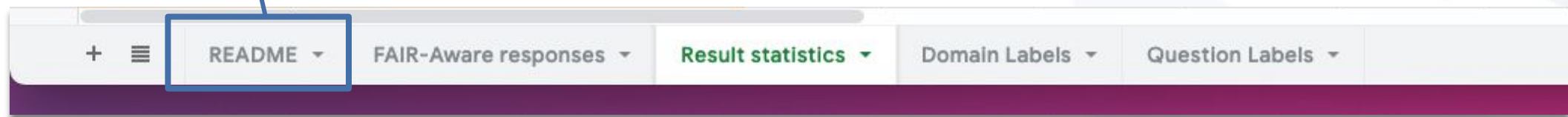
1. Download the results from the Database on fairaware.dans.knaw.nl using your log in credentials and the code you specified for your users
2. Open the .csv file (preferably in Numbers, but Excel or another software is also fine), select all content and copy-paste it to this document to the 'FAIR-Aware responses' sheet
3. Manually delete all rows that contain invalid responses (if any), for example:
 - a. Come from a different host than "DANS" (e.g., TEST or DORANUM)
 - b. Are test inputs (identifiable by some form of the word "test" in column *Missing Metrics* and/or *General Feedback*)
 - c. Are otherwise not valid responses (e.g., other languages)...make sure no empty rows are left in the 'FAIR-Aware responses' sheet
- 3.5 (only applicable if data was opened in Excel before importing) check for any strange symbols in written text (→←→←→←) and delete/replace them with the right characters. We are working on making sure the export won't include these symbols in the future.
4. The data is now clean for analysis, and all statistics should automatically update to the new data (see the 'Result statistics' sheet)
5. If you are using this tool and the accompanying analysis more than once, it is recommended to use version control. You can keep track of when you last updated the results by changing the date at the top of the 'FAIR-Aware responses' sheet. You can also add version control to the document name, or use Google Spreadsheet's version control by going to File > Version History > Name current version. We recommend the naming convention "YYYYMMDD_FAIRAware_statistics", with the date being the export date of the data. If you want to save multiple versions of the same export, we recommend adding version numbering at the end of the file name.

Troubleshooting:

→ Link to analysis template: <https://bit.ly/FAIRAwareTemplate>

Step 6: Analyse

Instructions and troubleshooting



A screenshot of a Google Sheets document titled 'FAIR-Aware results analysis (for external use)'. The document contains the following content:

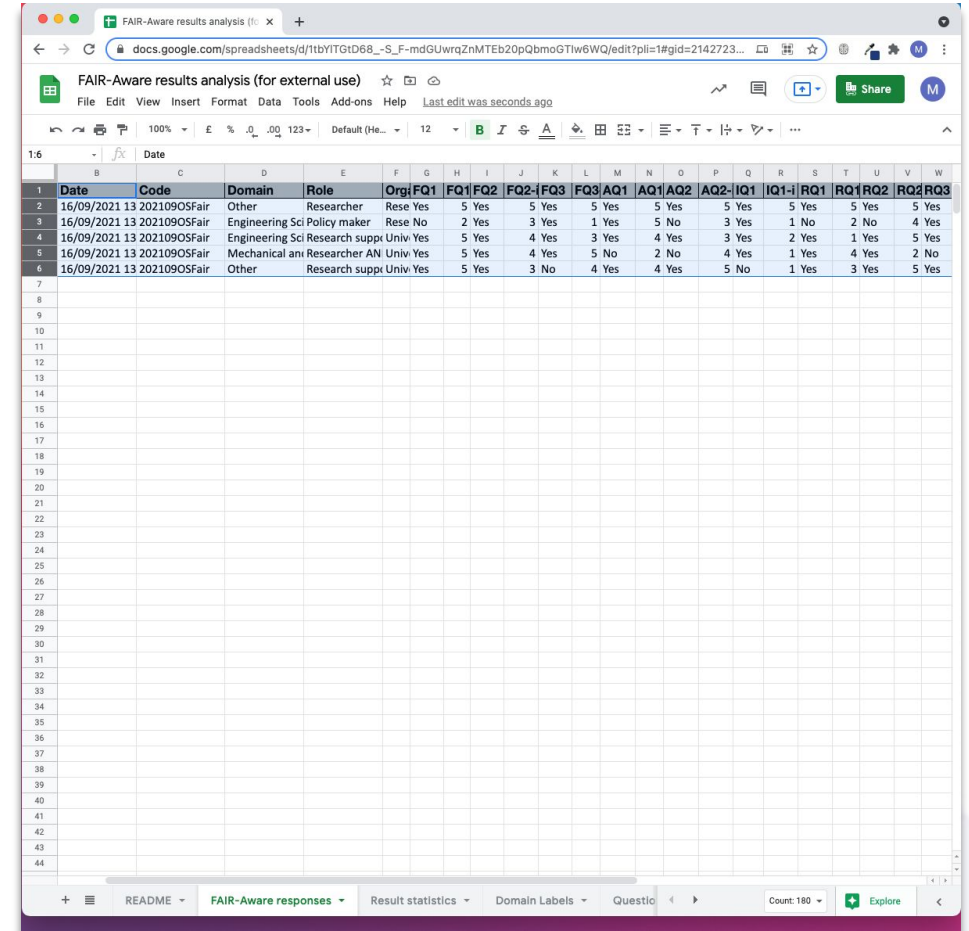
- Logos for FAIR Aware and FAIRSFAR.
- A 'Thank you for using the FAIR-Aware tool!' message.
- Instructions on how to export results and analyze them.
- Contact information: fair-aware@dans.knaw.nl.
- A reference to the tool: Vesa Akerman, Linas Cepinskas, Maaike Verburg, & Mokrane Mustapha. (2021). FAIR-Aware: Assess Your Knowledge of FAIR (v1.0.1). Zenodo. <https://doi.org/10.5281/zenodo.5084861>.
- A section titled 'Instructions on analyzing your FAIR-Aware results in this document' with a list of steps:
 - Download the results from the Database on fairaware.dans.knaw.nl using your log in credentials and the code you specified for your users.
 - Open the .csv file (preferably in Numbers, but Excel or another software is also fine), select all content and copy-paste it to this document to the 'FAIR-Aware responses' sheet.
 - Manually delete all rows that contain invalid responses (if any), for example:
 - Come from a different host than "DANS" (e.g., TEST or DORANUM)
 - Are test inputs (identifiable by some form of the word "test" in column *Missing Metrics* and/or *General Feedback*)
 - Are otherwise not valid responses (e.g., other languages)...make sure no empty rows are left in the 'FAIR-Aware responses' sheet.
 - 5.5 (only applicable if data was opened in Excel before importing) check for any strange symbols in written text (-+~!@-+~!) and delete/replace them with the right characters. We are working on making sure the export won't include these symbols in the future.
 - The data is now clean for analysis, and all statistics should automatically update to the new data (see the 'Result statistics' sheet).
 - If you are using this tool and the accompanying analysis more than once, it is recommended to use version control. You can keep track of when you last updated the results by changing the date at the top of the 'FAIR-Aware responses' sheet. You can also add version control to the document name, or use Google Spreadsheet's version control by going to File > Version History > Name current version. We recommend the naming convention "YYYYMMDD_FAIRAware_statistics", with the date being the export date of the data. If you want to save multiple versions of the same export, we recommend adding version numbering at the end of the file name.

Below the instructions is a 'Troubleshooting:' section.

Always feel free to contact fair-aware@dans.knaw.nl for any further questions

Step 6: Analyse

Paste your results here



1	Date	Code	Domain	Role	Org	FQ1	FQ2	FQ3	AQ1	AQ2	IQ1	IQ2	RQ1	RQ2	RQ3
2	16/09/2021	13 202109OSFair	Other	Researcher	Rese	Yes	5	Yes	5	Yes	5	Yes	5	Yes	5
3	16/09/2021	13 202109OSFair	Engineering Sci	Policy maker	Rese	No	2	Yes	3	Yes	1	Yes	5	No	4
4	16/09/2021	13 202109OSFair	Engineering Sci	Research suppl	Univ	Yes	5	Yes	4	Yes	3	Yes	4	Yes	3
5	16/09/2021	13 202109OSFair	Mechanical an	Researcher AN	Univ	Yes	5	Yes	4	Yes	5	No	2	No	4
6	16/09/2021	13 202109OSFair	Other	Research suppl	Univ	Yes	5	Yes	3	No	4	Yes	4	Yes	5

+ ☰ README ▾ **FAIR-Aware responses ▾** Result statistics ▾ Domain Labels ▾ Question Labels ▾

Step 6: Analyse

FAIR-Aware results analysis (for external use) ☆ 📄 🌐

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FAIR Letter	FAIR Question	Shortened topic for feedback question	Label for analysis and figures
F	Are you aware that a dataset should be assigned a globally unique persistent and resolvable identifier when deposited with a data repository?	Globally unique persistent identifier (PID)	Persistent identifier
F	Are you aware that when you deposit a dataset with a repository, you will need to provide some details (known as discovery metadata) in order to make the data findable, understandable and reusable to others?	Metadata for citation and discovery including PID	Discovery metadata
F	Are you aware that the repository providing access to your dataset should make the metadata describing your datasets available in a format readable by machines as well as humans?	Metadata available online is readable by humans and machines	Metadata for humans and machines
A	Are you aware that access to your dataset may need to be controlled and that metadata should include licence information under which the data can be reused?	Metadata includes license, level of access and conditions to access the data	Access control metadata
A	Are you aware that metadata should remain available over time, even if the data is no longer accessible?	Persistence of metadata	Persistence of metadata
I	Are you aware that the metadata describing your datasets should use semantic vocabularies?	Use of controlled vocabularies in metadata	Controlled vocabularies
R	Are you aware that provenance information about the collection and/or generation of data should be included in the metadata?	Metadata includes provenance	Provenance information
R	Are you aware that metadata describing your data should follow the specifications of a community-endorsed standard?	Community-endorsed metadata	Community-endorsed metadata standards
R	Are you aware that data should be deposited preferably in a file format that is open – to support reuse – and supported by the repository for long-term preservation?	Data in a preferred format for reuse & preservation	Preferred data format
R	Are you aware that maintaining your dataset FAIR over time requires professional data curation and preservation?	Digital curation and preservation	Digital curation and preservation

FAIR-Aware results analysis (for external use) ☆ 📄 🌐

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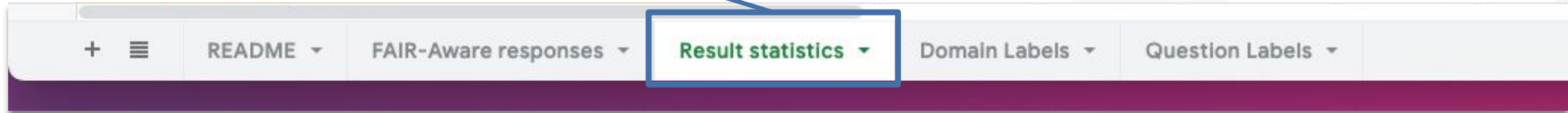
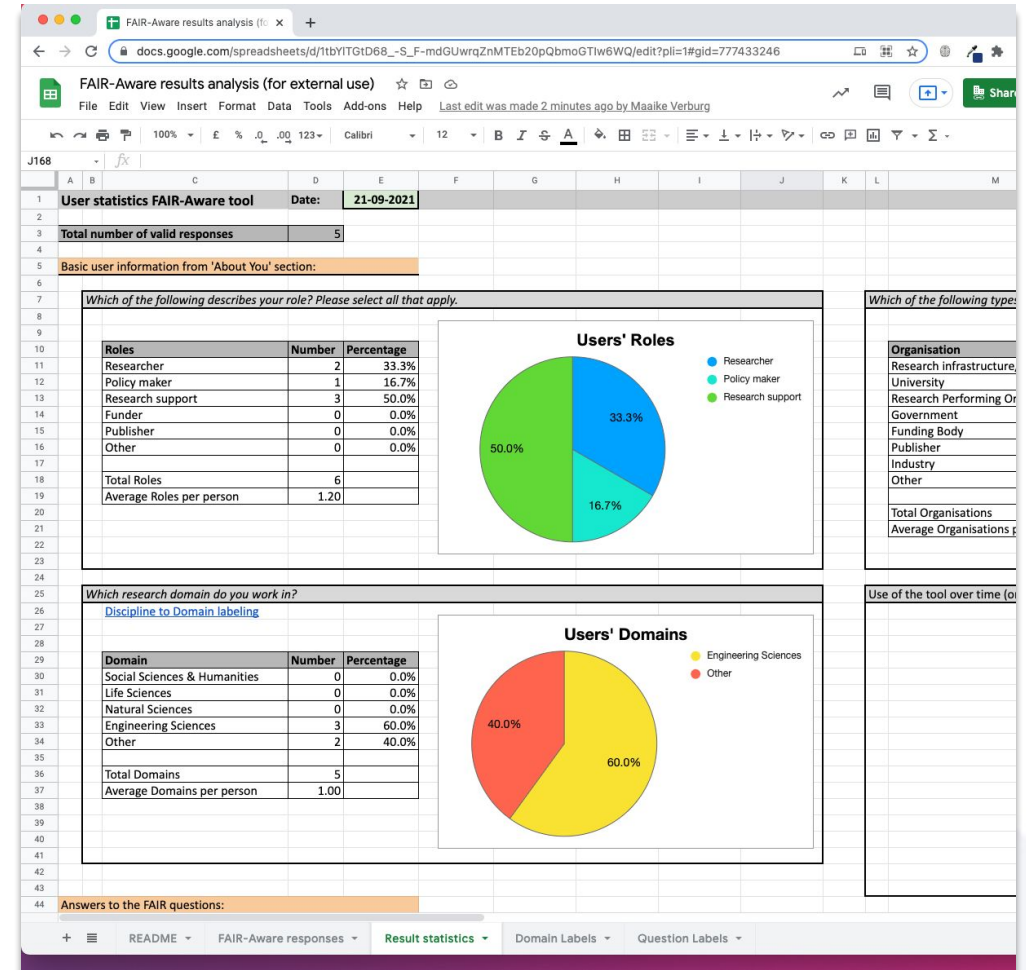
Domain	Mother Domain
Humanities	Social Sciences and Humanities
Ancient Cultures	Social Sciences and Humanities
History	Social Sciences and Humanities
Fine Arts Music Theatre and Media Studies	Social Sciences and Humanities
Linguistics	Social Sciences and Humanities
Literary Studies	Social Sciences and Humanities
Non-European Languages and Cultures Social and Cultural Anthropology Jewish Studies and Religious Studies	Social Sciences and Humanities
Theology	Social Sciences and Humanities
Philosophy	Social Sciences and Humanities
Social and Behavioural Sciences	Social Sciences and Humanities
Education Sciences	Social Sciences and Humanities
Psychology	Social Sciences and Humanities
Social Sciences	Social Sciences and Humanities
Economics	Social Sciences and Humanities
Jurisprudence	Social Sciences and Humanities
Life Sciences	Life Sciences
Biology	Life Sciences
Basic Biological and Medicinal Research	Life Sciences
Plant Sciences	Life Sciences
Zoology	Life Sciences
Medicine	Life Sciences
Microbiology, Virology and Immunology	Life Sciences
Neurosciences	Life Sciences
Agriculture, Forestry, Horticulture and Veterinary Medicine	Life Sciences
Natural Sciences	Natural Sciences
Chemistry	Natural Sciences

Information about labeling

+ ☰
README ▾
FAIR-Aware responses ▾
Result statistics ▾
Domain Labels ▾
Question Labels ▾

Step 6: Analyse

Overview of results



Step 6: Analyse

Result statistics contain:

- Overview of users' roles
- Overview of users' domains
- Overview of users' organisation types
- Timeline
- Indication of awareness per question
- Indication of willingness to comply per question
- Difficult topics indicated
- Assessment of FAIR-Aware tool
- Difficulty per FAIR letter
- Difficult topics split on domain

Overview of
results



FAIR-Aware Trainer Functionality

- FAIR-Aware thrives on feedback, don't be shy!
 - What works? What doesn't? What could be added? How can it be more user-friendly?
- Educate or start the conversation in your community
 - Share your experiences with us and others!



Q&A





FAIRsFAIR
Fostering Fair Data Practices in Europe

Thank you for your time!

Contact: fair-aware@dans.knaw.nl

Spread the word!

**@DANS_knaw_nwo | @FAIRsFAIR_eu | #FAIRAwareTool
@OpenScienceFAIR | #OSFAIR2021**