Data Exchange Format for Grant Information

A standard format for sharing grant data

This document describes a data exchange format for grant information. The purpose of this document is to provide a format for exchange with Forskningsportal.dk, with funders being the providers of data, and Forskningsportal.dk being the consumers.
The format is designed to be simple, flexible, and interoperable, and to facilitate data reuse and analysis.

The content is adapted from the reporting to Statistics Denmark (DST) on "Fondes aktiviteter", with a few fields added. This format is used because foundations may already be familiar with that format.

The number of mandatory fields is kept to a minimum, to allow for a low barrier for entry to the sharing of data.

Preface to version 1.0

Version 1.0 of the data exchange format for grant information is the first published version of the format. The work on the format started in November 2023 and it has gone through several iterations, which is documented in the version history section, before reaching this current final version.

A warm thank you to Anders A.K. Nielsen, for inventing the concept of the data exchange format, and for leading the process of finalizing the format.

1. Table of Contents

2. Version history

Version	Date	Reviser	Description
0.1	2024-01-11	Anders A. K. Nielsen	Initial draft
0.2	2024-04-04	Anders A. K. Nielsen	Adding multiple fields, to allow for 1:n relations
0.3	2024-05-07	Anders A. K. Nielsen	Adding input from Dicte (et al). Reorder fields to place mandatory first. Change to DST level 1, level 2
0.4	2024-05-14	Anders A. K. Nielsen	Adding worksheet "Resulting publications". Correcting/aligning terminology. Added weight for green research. Moved field specifications to "Contents of worksheet"-tables
0.5	2024-06-12	Anders A. K. Nielsen	Additional details in section "On the use of mandatory fields". Specifying fallback values for mandatory fields
0.51	2024-06-21	Anders A. K. Nielsen	Added and updated classification tables, made minor fix on worksheet Grants, clarified use of abbreviations for OECD classifications
0.6	2024-06-26	Anders A. K. Nielsen	Adding 1:n relations for DST to OECD (ch. 14.4), minor fixes to mapping tables
0.61	2024-06-28	Anders A. K. Nielsen	Minor update describing how OECD mappings can be delivered
1.0	2024-07-22	Dicte Madsen	Minor revision on mandatory "subject" fields. Changed headings and examples throughout the format. Preface added
1.1	2024-08-30	Dicte Madsen	

			Minor field name changes in grants work-sheet.
			Adding mandatory "Open Competition Grant" field In grants worksheet.
			Updated tables 11.1, 11.2, 11.3, 14.1, 14.2, 14.4 with capitalization of first letter of all prominent words.
			Labels updated in table 11.1
1.2	2025-05-06	Dicte Madsen	Minor field name changes in "Green re-search" worksheet, In the field description in chapter 9. Worksheet Green Research and in table 11.3
			Revisions in capitalization of first letter of all prominent words in all work sheets
			Additional funding types added to 14. 1: Crossref funding types.

3. The Data Exchange Format – intro

The format is an Excel workbook with multiple worksheets. A worksheet is often referred to as a "tab". Each worksheet contains an aspect of the data. The data can be linked (merged/joined) using the grant Id, which is the common identifier that's present in all rows in all worksheets.

The reason for using multiple worksheets is that it allows for the use of relations, where one grant can be related to e.g. one main applicant (the Principal Investigator - PI) and several co-applicants.

The fields known from the DST exchange format are used in the different worksheets.

3.1. Worksheets in the exchange format

The exchange format consists of 6 mandatory worksheets. These worksheets must be present in the workbook, even if they don't contain any data. Each worksheet must contain the header as described in the sections below.

The mandatory worksheets are:
1. Grants
2. Persons
3. Organisations
4. Keywords
5. Green research
6. Resulting publications

The worksheets are described in detail in the later chapters.

4. Understanding data requirements in the exchange format

The exchange format is a technical specification that describes a defined format for providing data. In this document, the term "Mandatory" is used to describe the necessity of specific data points' presence. Providing mandatory data points ensures the data can be accurately presented on Forskningsportalen.

4.1. Mandatory fields

Definition:
- A mandatory field is one where the presence of data is required.
- If the data is not available, the data provided must use the values listed in the field "Fallback".
- No fallback value can be used for the field "Grant Id", as this functions as the unique identifier for a grant.

Key points:
- Requirement: Mandatory fields must contain data. These fields are essential for a functional presentation of data on Forskningsportalen.
- Fallback Mechanism: If data is unavailable for a mandatory field, the specified fallback value must be provided. You must provide the fallback value, if data is unavailable.

- Example: The field "Funder ROR" is marked as mandatory. If this value isn't available, the fallback value "N/A" must be used.

4.2. Non-mandatory

Definition:
- Non-mandatory fields are optional and may be left blank if the data is not available.
- Providing data in the non-mandatory fields is recommended, because it contributes to a richer presentation of data on Forskningsportalen.

Key Points:
- Flexibility: Non-mandatory fields may be left empty. However, if the data is available, it can be provided.
- Enhanced Data Quality: While not required, including data in the non-mandatory fields can improve the richness and usability of the dataset. Providing data is *optional* but encouraged.
- Example: The abstract-field for a grant may be left blank, if an abstract isn't available in the data source. However, providing an abstract for a grant can add a rich level of detail that isn't available through e.g. a project title.

4.3. Worksheet requirements

The exchange format describes a template in Excel, consisting of six worksheets. The data requirements for each worksheet vary.

Key Points:
- Mandatory Worksheet: The "Grants"- worksheet must contain data. This worksheet is the minimal required for the functioning of the exchange format.
- Additional Worksheets: While only the "Grants"-worksheet is mandatory, data can be provided in any of the other worksheets. However, if data is included on any worksheet, it must conform to the specified format for that worksheet.
- Example: The "Grants" worksheet is mandatory; it must contain data. If data is added to the worksheet "Keywords," the data in that worksheet must follow the defined structure defined for that worksheet.

4.4. Providing DST or OECD classifications

The Grants-worksheet contains fields for DST classification and OECD classification. The guidelines for these classifications are as follows:

Key Points:
- Choice Requirement: You must provide data as classified by either the DST or the OECD specification.
- Consistency: Once a type of classification is chosen, it is mandatory to provide that classification consistently throughout the worksheet, leaving the other classification type empty.
- Example: If you choose to provide data as classified by the DST classification scheme, you must provide data in the fields "DST classification level 1" and "DST classification level 2", while leaving "OECD classification level 1" and "OECD classification level 2" blank.
- Preferably fill out both level 1 and level 2. **But only level 1 is mandatory.**

5. Worksheet Grants

This is the central worksheet, containing the grant-level information.

Note that you must provide *either* DST classification level 1 and if possible, DST classification level 2 *or* OECD classification level 1 and if possible OECD classification level 2. It is not mandatory to provide both. See also chapter 4.4

The DST classification codes are listed in chapter 11.2, and the OECD classification codes are listed in chapter 14.2

5.1. Contents of worksheet

Field name	Mandatory	Field specifications	Fallback	Equivalent in DST format
Grant Id	Yes	The unique ID of the grant.		Hovednummer
Title	Yes	The project title/name of the grant	No title	Bevillingstitel/ident
Funder Name	Yes	Preferred name of funder.	N/A	Fondens/foreningens navn
Funder ROR	Yes	The ROR ID of the funder. Provide with prefix "https://ror.org/", e.g. https://ror.org/04txyc737	N/A	
Funder CVR	Yes	The company registration number of the funder. Must follow regex [0-9]{8}	N/A	
Funding Type	Yes	The funding type according to Crossref. Allowed values are listed in section 14.1, "Crossref funding types"	other	
Funder Specific Instrument	Yes	The funding instrument	N/A	
Grant Year	Yes	Four digits of the year the grant was awarded	0	Bevillingsår
Amount Granted	Yes	The funded amount, given as an integer	0	Bevilling (hele kr.)
Currency	Yes	Refers to the currency of the grant. ISO 4217 currency code.	DKK	
Grant Start Date	Yes	A project start date. Should be an "Excel date", i.e. a number displayed as a date.	1900-01-01	

Field name	Manda-tory	Field specifications	Fallback	Equivalent in DST for-mat
Grant End Date	Yes	A project end date. Should be an "Excel date", i.e. a number dis-played as a date.	1900-01-01	
DST Instrument	Yes	Virkemiddel	VM_26_Other	DST Virkemiddel
DST Classifica-tion Level 1	Choice	Provide either DST classification or OECD classification	N/A	Fagområder
DST Classifica-tion Level 2	Choice	Provide either DST classification or OECD classification	FA_99_Ikke relevant	Fagområder
OECD Classifi-cation Level 1	Choice	Provide either DST classification or OECD classification	N/A	
OECD Classifi-cation Level 2	Choice	Provide either DST classification or OECD classification	N/A	
Call	No			
Project URL	No	A URL relevant for the project. Should start with https://, and should be publicly available		
Abstract	No	A summary/abstract for the pro-ject.		
Grant DOI	No	Must match regex 10.\d{4,9}/[-._;()/:A-Z0-9]+		
Open Competi-tion Grant	Yes	Provide either Y or N	N/A	(Skal udfyldes hvis "Virkemiddel" er forsk-ning) FORSKNING konkur-renceudsat

5.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
Title	Center for Ice-sheet and Sea-level Predictions (CISP)
Funder Name	Novo Nordisk Foundation
Funder ROR	https://ror.org/04txyc737
Funder CVR	10582989

Field name	Example
Funding Type	Award
Funder Specific Instrument	Project grant
Grant Year	2023
Amount Granted	37020114
Currency	DKK
Grant Start Date	2023-09-01
Grant End Date	2029-08-31
DST Instrument	VM_09_ Research Projects (Between 10 MDKK and 50 MDKK)
DST Classification Level 1	Engineering and Technology
DST Classification Level 2	FA_24_ Environmental Engineering
OECD Classification Level 1	Engineering and Technology
OECD Classification Level 2	2.3 Mechanical Engineering
Call	Challenge Programme 2023 – Prediction of Climate Change and Effect of Mitigating Solutions
Project URL	https://novonordiskfonden.dk/en/news/more-knowledge-on-the-complexity-of-ice-sheets-will-improve-calculations-of-future-sea-level-rises/
Abstract	Global temperature has increased by 1°C over the past century. This has resulted in a sea-level rise of between 16 and 21 cm. […]
Grant DOI	10.37717/220020589
Open Competition Grant	Y

6. Worksheet Persons

Contains information on persons related to a grant. The type of relationship is expressed in the Role-field, as either "Principal Investigator", "Co-applicant" or "Participant".

The format allows for the inclusion of full name and optionally first + last names. The reason for this is to allow the delivery of both representations when the source of data contains data in that format.

Inclusion of split names will allow for the persons being shown as they can appear in publications, with last name, first name – e.g. "Madsen, Dicte" – or shown as the full name: "Dicte Madsen".

6.1. Contents of worksheet

Field name	Manda-tory	Field specifications	Fallback	Equivalent in DST for-mat
Grant Id	Yes	The unique ID of the grant.		Hovednummer
Full Name	Yes	Full name of the person	N/A	PI navn
Person Role	Yes	Must be either "Principal Investigator", "Co-applicant" or "Participant"	Participant	
First Name	No	The first name(s) of person	N/A	
Last Name	No	The last name(s) of the person	N/A	
ORCID	Yes	ORCID given as 16 digits, with a hyphen every 4 characters. Should not be preceded by https://orcid.org/ Field should be formatted as "text" in Excel. Should follow regular expression ^(\d{4}-){3}\d{3}(\d|Xx)$	0000-0000-0000-0000	Modtager - ORCID
Amount Granted for Person	No	The amount granted for this person, given as an integer		
Currency	No	Refers to the currency of the amount granted to the person. ISO 4217 currency code.		
Organisation	No	The name of the associated organisation of the person. If included, the organisation must be listed for the given grant in the Organisations worksheet		

6.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
Full Name	Shfaqat Abbas Khan
Person Role	Principal Investigator
First Name	Shfaqat
Last Name	Abbas Khan
ORCID	0000-0002-2689-8563
Amount Granted for Person	1000
Currency	DKK
Organisation	Technical University of Denmark

7. Worksheet Organisations

Contains information on the organisation(s) related to a grant. The type of relationship is expressed in field "Organisation role" and must be either "Main organisation" or "Other organisation". The format doesn't allow for specifying a relation of an organisation to a specific person.

7.1. Contents of worksheet

Field name	Mandatory	Field specifications	Fallback	Equivalent in DST format
Grant Id	Yes	The unique ID of the grant.		Hovednummer
Organisation Name	Yes	Name of the organisation	N/A	Modtager institution
Organisation Role	Yes	Must be either "Main organisation" or "Other organisation"	Other organisation	
Organisation Country	Yes	ISO 3166-1 alpha-2 country code	ZZ	
Organisation CVR	Yes	Only for Danish organisations. Must follow regex [0-9]{8}	N/A	Modtager - CVR
Organisation ROR	Yes	The ROR ID of the organisation. Provide with prefix "https://ror.org/", e.g. https://ror.org/04qtj9h94	N/A	
Amount Granted for Organisation	No	The amount granted for this organisation, given as an integer		
Currency	No	Refers to the currency of the amount granted to the organisation. ISO 4217 currency code.		

7.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
Organisation Name	Technical University of Denmark
Organisation Role	Main organisation
Organisation Country	DK
Organisation CVR	30060946
Organisation ROR	https://ror.org/04qtj9h94

Amount Granted for Organisation	1000
Currency	DKK

8. Worksheet Keywords

Keywords describing the grant.

8.1. Contents of worksheet

Field name	Mandatory	Field specifications	Fallback	Equivalent in DST format
Grant Id	Yes	The unique ID of the grant.		Hovednummer
Keyword	Yes	A keyword related to the grant	N/A	

8.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
Keyword	Interdisciplinary Research

9. Worksheet Green research

The Ministry of Higher Education and Science (UFM) has established an overall definition of green research, development and innovation including seven subtopics to be used across UFM in strategies, analyses, surveys, mapping, monitoring and other initiatives in connection with the green transition. The DST format specifies that "green" research grants should be categorized in one of these seven categories – or marked "not relevant". This indication of type of green research should also be included in the data exchange.

To facilitate an exchange of more detailed information on the composition of the green research categories for a given grant, the field "DST green research percentage" is included. This allows the exchange to describe that a grant is composed of e.g. 20% "Grøn transport", 80% "GT_06_Naturbeskyttelse, biodiversitet og klimaforandringer". Inclusion of data in this field is not mandatory.

9.1. Contents of worksheet

Field name	Mandatory	Field specifications	Fallback	Equivalent in DST format
Grant Id	Yes	The unique ID of the grant.		Hovednummer

UFM Green Research Category	Yes	A code describing the type of green research	GT_99_ Not Relevant	Forskning Grønt tema
UFM Green Research Percentage	No	A grant may be classified with multiple green research categories. Should contain the proportion of the grant allocated to this category of green research. Must be given as an integer (e.g. 20% must be indicated as 20). Must total 100 for a given grant Id		

9.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
UFM Green Research Category	GT_06_ Nature Conservation, Biodiversity and Climate Change
UFM Green Research Percentage	100

10.Worksheet Resulting publications

10.1.Contents of worksheet

Field name	Manda-tory	Field specifications	Fallback	Equivalent in DST for-mat
Grant Id	Yes	The unique ID of the grant.		Hovednummer
Publication DOI	Yes	Must match regex 10.\d{4,9}/[-._;()/:A-Z0-9]+	N/A	
Publication Title	Yes		No title	
Scopus Id (EID)	No	Must match regex 2-s2\.0-\d+		
Web of Science Id (UT)	No	Must match regex WOS:[A-Z\d]{15}		
Dimensions Id	No	Must match regex pub\.\d{10}		
PubMed Id (PMID)	No	Must match regex [1-3]\d{7}|[1-9]\d{0,6} Should be formatted as Text in Excel.		
ISSN Electronic	No	Must match regex [0-9]{4}-[0-9]{3}[0-9X]		
ISSN Print	No	Must match regex [0-9]{4}-[0-9]{3}[0-9X]		
ISBN Electronic	No	Prefer ISBN-13. Should be for-matted as Text in Excel.		
ISBN Print	No	Prefer ISBN-13. Should be for-matted as Text in Excel.		

10.2. Examples of data in worksheet

Field name	Example
Grant Id	NNF23OC0080740
Publication DOI	10.1016/bs.ctdb.2015.11.037
Publication Title	Cancer in Drosophila: Imaginal Discs as a Model for Epithelial Tumor Formation.
Scopus Id (EID)	2-s2.0-84960158644
Web of Science Id (UT)	WOS:000376939100012
Dimensions Id	pub.1030538907
PubMed Id (PMID)	26970620
ISSN Electronic	1557-8933
ISSN Print	2053-230X
ISBN Electronic	9781032271293
ISBN Print	9781032650920

11. On the use of classifications from DST and OECD

The DST exchange format specifies that codes only require the first five characters of a code to be correct: other characters are present just to make the codes easier to read. For example,

> *"Her angives formålet. Koderne vil blive valideret på de første 5 tegn. Hvis formålet fx*
> *er kultur, så angives koden FO_02_Kulturelle formål, men det vil også være tilladt at*
> *angive fx FO_02 eller FO_02_Kultur."*

This means you can provide your own labels for the classifications, if the first five characters contain the intended mapping.

Four classification schemes from the DST specification are in use in the exchange format. The codes and labels are described below.

The OECD classification codes, listed in chapter 14.2, can be identified uniquely by the code – thus, it is sufficient to provide the code to identify the OECD level 1 and level 2 classification.
Codes in the OECD format can be either 3 or 4 characters long, e.g. 1.6 or 2.11

The exchange format specifies that only the OECD codes are required to be correct: other characters are present to make the codes easier to read. For example, if your OECD classification is 1.6 "Natural sciences" (level 1) and "Biological sciences" (level 2), only provide the code 1.6
The "1" refers to level 1, and "1.6" refers to level 2.
This means you can provide your own labels for the classifications, if the code contains the intended mapping.

11.1. DST instrument ("Virkemiddel")

The "DST instrument"-field is a required field on the Grants worksheet. This corresponds to "virkemiddel" in the DST specification.

The codes marked "Is research" denotes the types that – in the DST definition – are considered research.

Code	DST instrument classification	Is research
VM_01	Facilities	
VM_02	Buildings	
VM_06	Research	✓
VM_07	Postdoc	✓
VM_08	Research Projects (Max 10 MDKK)	✓
VM_09	Research Projects (Between 10 MDKK and 50 MDKK)	✓
VM_10	Research Projects (From 50 MDKK and up)	✓
VM_11	Research Infrastructure	✓
VM_12	Research Education (PhD)	✓
VM_13	Research Dissemination	✓
VM_14	Prizes and Scholarships	✓
VM_15	Non-earmarked Funds	
VM_20	Dissemination and Communication	

VM_21	Acquisitions	
VM_22	Innovation	
VM_26	Other	

11.2. DST classification level 1 and level 2

DST classification level 1 and level 2 are required fields on the Grants worksheet. These codes correspond to "Fagområde" in the DST specification.

There is a choice requirement for providing either data as classified by the DST or OECD subject classification for each grant. The technical format provides a mapping between the two classification systems (appendix 14.3). Which means no matter what classification scheme is chosen, a grant will be tagged with both DST and OECD classifications in the grants database. There is a total overlap between level 1 in the OECD and DST schema, but slight variation on level 2.

Code	DST level 1	DST level 2
FA_01	Natural Sciences	Mathematics
FA_02	Natural Sciences	Computer and Information Sciences
FA_03	Natural Sciences	Physical Sciences
FA_04	Natural Sciences	Chemical Sciences
FA_05	Natural Sciences	Earth and Related Environmental Sciences and Physical Geography
FA_06	Natural Sciences	Biochemistry
FA_07	Natural Sciences	Biological Sciences
FA_08	Natural sciences	Other Natural Sciences
FA_09	Medical and Health Sciences	Basic Medicine
FA_10	Medical and Health Sciences	Pharmacology and Pharmacy and Medicinal Chemistry
FA_11	Medical and Health Sciences	Clinical Medicine
FA_12	Medical and Health Sciences	Odontology
FA_13	Medical and Health Sciences	Health Services
FA_14	Medical and Health Sciences	Nursing
FA_15	Medical and Health Sciences	Social Medicine and Public Health
FA_16	Medical and Health Sciences	Medical Biotechnology
FA_17	Medical and Health Sciences	Other Medical Sciences
FA_18	Engineering and Technology	Civil Engineering
FA_19	Engineering and Technology	Electrical Engineering, Electronic Engineering, Information Engineering
FA_20	Engineering and Technology	Mechanical Engineering
FA_21	Engineering and Technology	Chemical Engineering
FA_22	Engineering and Technology	Materials Engineering
FA_23	Engineering and Technology	Medical Engineering
FA_24	Engineering and Technology	Environmental Engineering
FA_25	Engineering and Technology	Environmental Biotechnology
FA_26	Engineering and Technology	Industrial Biotechnology
FA_27	Engineering and Technology	Nano-technology
FA_28	Engineering and Technology	Other Engineering and Technologies
FA_29	Social Sciences	Psychology and Cognitive Sciences

Code	DST level 1	DST level 2
FA_30	Social Sciences	Economics
FA_31	Social Sciences	Business and Management
FA_32	Social Sciences	Education, Pedagogy
FA_33	Social Sciences	Sociology, Anthropology and Ethnology
FA_34	Social Sciences	Cultural and Economic Geography
FA_35	Social Sciences	Law
FA_36	Social Sciences	Political Science
FA_37	Social Sciences	Urban Studies, Transport Planning and Social Aspects of Transport
FA_38	Social Sciences	Other Social Sciences
FA_39	Humanities and the Arts	History
FA_40	Humanities and the Arts	Archaeology
FA_41	Humanities and the Arts	Languages
FA_42	Humanities and the Arts	Literature
FA_43	Humanities and the Arts	Philosophy
FA_44	Humanities and the Arts	Theology and Religious Studies
FA_45	Humanities and the Arts	Musicology and Theater Science
FA_46	Humanities and the Arts	Art, Art History and Architectual Design
FA_47	Humanities and the Arts	Studies on Film and Television
FA_48	Humanities and the Arts	Media and Communications
FA_49	Humanities and the Arts	Other Humanities
FA_50	Agricultural and Veterinary Sciences	Agriculture
FA_51	Agricultural and Veterinary Sciences	Forestry
FA_52	Agricultural and Veterinary Sciences	Fisheries
FA_53	Agricultural and Veterinary Sciences	Animal and Dairy Science
FA_54	Agricultural and Veterinary Sciences	Veterinary Science and Food Science
FA_55	Agricultural and Veterinary Sciences	Agricultural Biotechnology
FA_56	Agricultural and Veterinary Sciences	Other Agricultural Sciences
FA_57	Interdisciplinary Research	Interdisciplinary Research
FA_99	Not relevant (Instrument not Research)	

11.3. UFM Green Research Category ("Forskning grønt tema")

The "UFM green research category"-field is a required field on the Green research worksheet. This corresponds to "Grøn forskning" in the DST specification based on the UFM definition of green resaerch.

Code	UFM green research category classification

GT_01	Sustainable Energy Technologies and Production Etc.
GT_02	Energy Efficiency
GT_03	Sustainable Food Production, Agriculture and Forests
GT_04	Climate Friendly Transportation
GT_05	Environmental Protection, Circular Economy and Environmental Technology
GT_06	Nature Conservation, Biodiversity and Climate Change
GT_07	Sustainable Behaviour and Societal Consequences
GT_99	Not Relevant

12.Exchange file type and structure

As with the DST format, the data should be delivered as an Excel-file (Office Open XML Workbook, extension XLSX)

All worksheets must be present in the file, regardless of them containing any data.
The order of the worksheets must be the following: Grants, Persons, Organisations, Keywords, Green research
The presence of additional worksheets is allowed. Any additional worksheets must be positioned after the "Green research" worksheet.

A header row must exist on each required worksheet. The header row must be in the first row in each worksheet, and the header must start in cell A1
No additional fields must be present in each required worksheet.

Only the Grants-worksheet must contain data. The presence of data on all other worksheets is optional, except for the header row.

Each grant must have one row in the Grants worksheet. The grant reference on the Grants-worksheet must be unique.
All data must be listed continuously – empty rows between entries is not allowed.
An empty cell indicates missing data.

Formatting (e.g. bold or italic text or headers) from the Excel-file will not be used.
Newline characters are not allowed (i.e. CR and LF characters).
Tab-characters and non-breaking spaces should be avoided. Whitespace before and after text should be removed.
Data should be formatted in Excel as "general". Dates should be formatted as "Date".

13. Data delivery and updates

All grants must be submitted with every update of the delivered file: that makes additions, edits, and deletion of grants easy.

The unique ID of a grant is the ID in the "Grant reference"-field.

A grant added to the file from one version to the next will be added.

A grant that is removed from one version to the next will be removed.

Existing data will be updated.

14. Appendix

14.1. Crossref funding types

Funding type	Description
APC	article processing charge
Award	a prize, award, or other type of general funding
BPC	book processing charge
Contract	agreement involving payment
Crowdfunding	funding raised via multiple sources, typically small amounts raised online
Endowment	gift of money that will provide an income
Equipment	use of or gift of equipment
Facilities	use of location, equipment, or other resources
Fellowship	grant given for research or study
Grant	a monetary award
Infrastructure	development of infrastructure to support research
Loan	money or other resource given in anticipation of repayment
Other	award of undefined type
Prize	an award given for achievement
Salary-award	an award given as salary, includes intramural research funding
Secondment	detachment of a person or resource for temporary assignment elsewhere
Seed-funding	an investor invests capital in exchange for equity
Training-grant	grant given for training

14.2. OECD classification

There is a choice requirement for providing either data as classified by the DST or OECD subject classification for each grant. The technical format provides a mapping between the two classification systems (appendix 14.3). Which means no matter what classification scheme is chosen, a grant will be tagged with both DST and OECD classifications in the grants database. There is a total overlap between level 1 in the OECD and DST schema, but slight variation on level 2.

Code	OECD level 1	OECD level 2
1.1	Natural Sciences	Mathematics
1.2	Natural Sciences	Computer and Information Sciences
1.3	Natural Sciences	Physical Sciences
1.4	Natural Sciences	Chemical Sciences
1.5	Natural Sciences	Earth and Related Environmental Sciences

Code	OECD level 1	OECD level 2
1.6	Natural Sciences	Biological Sciences
1.7	Natural Sciences	Other Natural Sciences
2.1	Engineering and Technology	Civil Engineering
2.2	Engineering and Technology	Electrical Engineering, Electronic Engineering, Information Engineering
2.3	Engineering and Technology	Mechanical Engineering
2.4	Engineering and Technology	Chemical Engineering
2.5	Engineering and Technology	Materials Engineering
2.6	Engineering and Technology	Medical Engineering
2.7	Engineering and Technology	Environmental Engineering
2.8	Engineering and Technology	Environmental Biotechnology
2.9	Engineering and Technology	Industrial Biotechnology
2.10	Engineering and Technology	Nano-technology
2.11	Engineering and Technology	Other Engineering and Technologies
3.1	Medical and Health Sciences	Basic Medicine
3.2	Medical and Health Sciences	Clinical Medicine
3.3	Medical and Health Sciences	Health Sciences
3.4	Medical and Health Sciences	Medical Biotechnology
3.5	Medical and Health Sciences	Other Medical Science
4.1	Agricultural and Veterinary Sciences	Agriculture, Forestry, and Fisheries
4.2	Agricultural and Veterinary Sciences	Animal and Dairy Science
4.3	Agricultural and Veterinary Sciences	Veterinary Science
4.4	Agricultural and Veterinary Sciences	Agricultural Biotechnology
4.5	Agricultural and Veterinary Sciences	Other Agricultural Sciences
5.1	Social Sciences	Psychology and Cognitive Sciences
5.2	Social Sciences	Economics and Business
5.3	Social Sciences	Education
5.4	Social Sciences	Sociology
5.5	Social Sciences	Law
5.6	Social Sciences	Political Science
5.7	Social Sciences	Social and Economic Geography
5.8	Social Sciences	Media and Communications
5.9	Social Sciences	Other Social Sciences
6.1	Humanities and the Arts	History and Archaeology
6.2	Humanities and the Arts	Languages and literature
6.3	Humanities and the Arts	Philosophy, Ethics and Religion
6.4	Humanities and the Arts	Arts (Arts, History of Arts, Performing Arts, Music)
6.5	Humanities and the Arts	Other Humanities

14.3. DST to OECD mapping

All DST classifications level 2 have an equivalent level 2 in the OECD classification schema. A grant tagged with a DST level 2 classification, will be tagged with an OECD level 2 classification as well according to the mapping table. The codes in the table below refer to the codes listed in chapter 11.2 and 14.2, respectively.

DST code	OECD code
FA_01	1.1
FA_02	1.2
FA_03	1.3
FA_04	1.4
FA_05	1.5
FA_06	1.6
FA_07	1.6
FA_08	1.7
FA_18	2.1
FA_19	2.2
FA_20	2.3
FA_21	2.4
FA_22	2.5
FA_23	2.6
FA_24	2.7
FA_25	2.8
FA_26	2.9
FA_09	3.1
FA_10	3.1
FA_11	3.2
FA_12	3.2
FA_13	3.3
FA_14	3.3
FA_15	3.3
FA_16	3.4
FA_17	3.5
FA_50	4.1
FA_51	4.1
FA_52	4.1
FA_53	4.2
FA_54	4.3
FA_55	4.4
FA_56	4.5
FA_29	5.1
FA_30	5.2
FA_31	5.2
FA_32	5.3

DST code	OECD code
FA_33	5.4
FA_35	5.5
FA_36	5.6
FA_34	5.7
FA_37	5.7
FA_48	5.8
FA_38	5.9
FA_39	6.1
FA_40	6.1
FA_41	6.2
FA_42	6.2
FA_43	6.3
FA_44	6.3
FA_45	6.4
FA_46	6.4
FA_47	6.4
FA_49	6.5
FA_27	2.10
FA_28	2.11

14.4. OECD to DST, one to many relationships

Some OECD level 2 classifications do not have an unambiguous mapping to a DST level 2 classification. For grants tagged with an OECD level 2 classification, that has a 1:n mapping in the DST scheme, a DST level 2 classification will not be attached and displayed in the database. Instead, level 1 will be the deciding factor for what will be displayed for both level 1 and level 2. An example is a grant tagged with OECD 1.6 level 1 Natural sciences/level 2 Biological sciences; it will be displayed as DST level 1 Natural sciences/level 2 Unspecified Natural sciences.

The table below describes the relations where an ambiguous mapping from DST to OECD exists, and what the resulting DST level 2 label will be.
The table also includes two DST codes where no equivalent in the OECD classification exists.

The codes in the table below refer to the codes listed in chapter 11.2 and 14.2, respectively.

OECD code	DST code	DST level 2 display label in database
1.6	FA_06	Unspecified Natural Sciences
1.6	FA_07	Unspecified Natural Sciences
3.1	FA_09	Unspecified Medical and Health Sciences
3.1	FA_10	Unspecified Medical and Health Sciences
3.2	FA_11	Unspecified Medical and Health Sciences
3.2	FA_12	Unspecified Medical and Health Sciences
3.3	FA_13	Unspecified Medical and Health Sciences
3.3	FA_14	Unspecified Medical and Health Sciences
3.3	FA_15	Unspecified Medical and Health Sciences
4.1	FA_50	Unspecified Agricultural and Veterinary Sciences
4.1	FA_51	Unspecified Agricultural and Veterinary Sciences
4.1	FA_52	Unspecified Agricultural and Veterinary Sciences
5.2	FA_30	Unspecified Social Sciences
5.2	FA_31	Unspecified Social Sciences
5.7	FA_34	Unspecified Social Sciences
5.7	FA_37	Unspecified Social Sciences
6.1	FA_39	Unspecified Humanities and the Arts
6.1	FA_40	Unspecified Humanities and the Arts
6.2	FA_41	Unspecified Humanities and the Arts
6.2	FA_42	Unspecified Humanities and the Arts
6.3	FA_43	Unspecified Humanities and the Arts
6.3	FA_44	Unspecified Humanities and the Arts
6.4	FA_45	Unspecified Humanities and the Arts
6.4	FA_46	Unspecified Humanities and the Arts
6.4	FA_47	Unspecified Humanities and the Arts
	FA_57	N/A
	FA_99	N/A