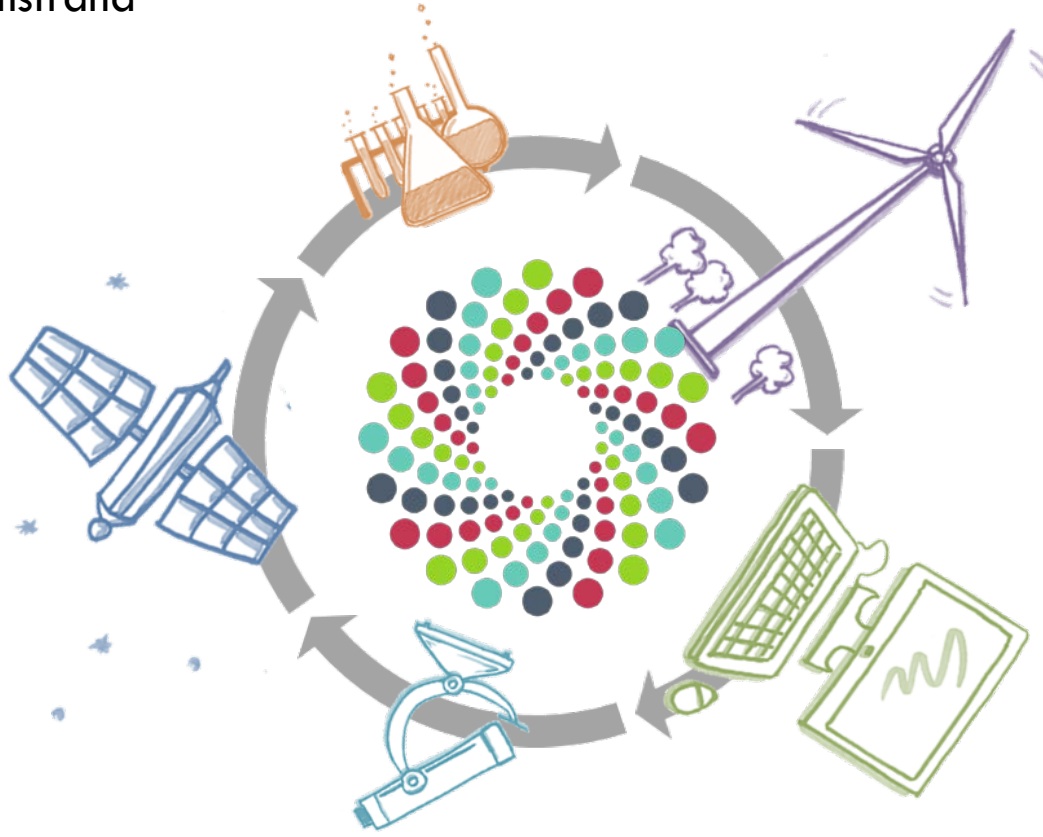


FRA figshare TIL DTU Data

Katrine Flindt Holmstrand

kafh@dtu.dk



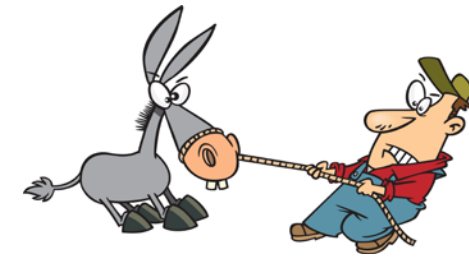
$$f(x+\Delta x) = \sum_{i=0}^{\infty} \frac{(\Delta x)^i}{i!} f^{(i)}(x)$$

$$\int_a^b \epsilon \Theta + \Omega \int \delta e^{i\pi} = \{2.7182818284\}$$

$$\chi^2 \Sigma !$$

- Nu
- Om 3 år
- Ideelt om 5 år

Research Data Management
drevet af national lovgivning og uni. politikker



RDM supporteret af
Forskningskontorerne

RDM supporteret af
bibliotekerne



RDM drevet af forskerne

FRA figshare TIL DTU Data

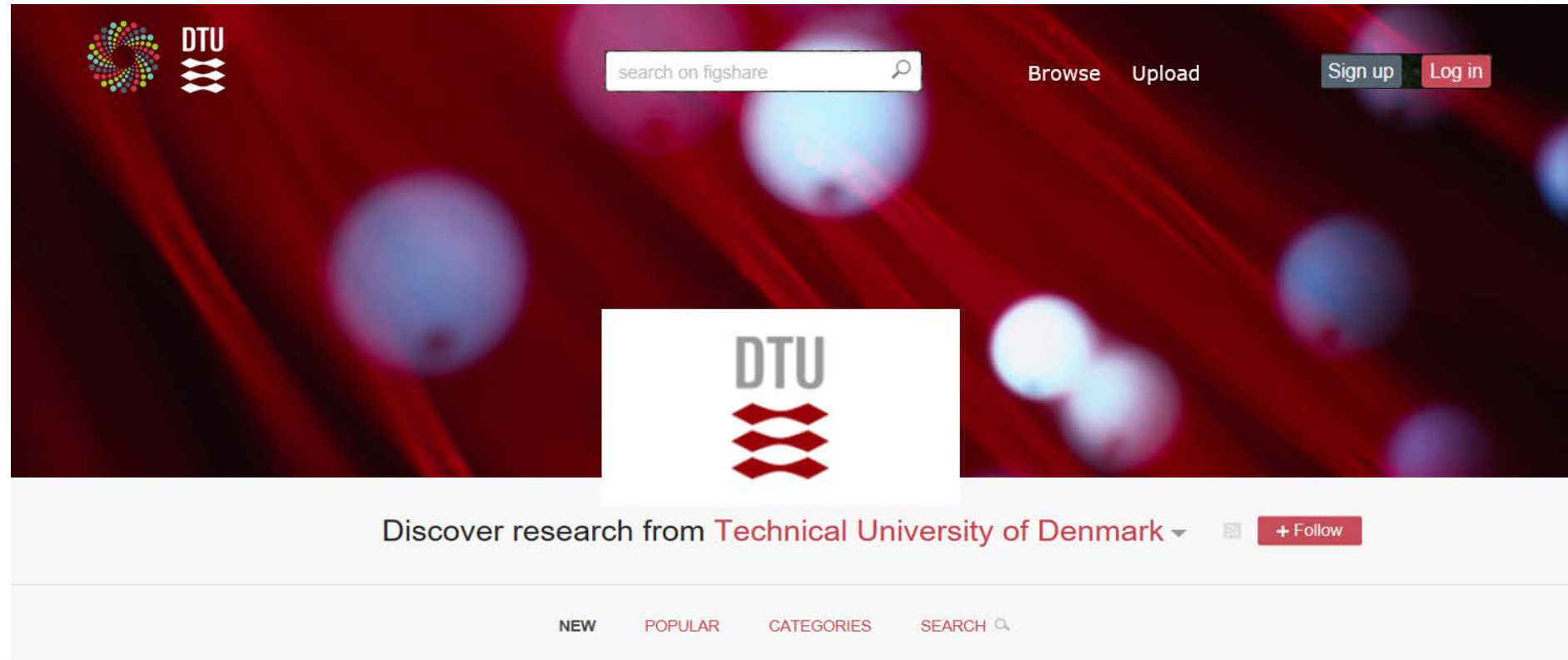
- FAKTABOX
- VEJEN TIL (DTU) DATA
- HVOR **FAIR** ER DTU DATA
- HVAD KAN DTU DATA
- LIDT OM PILOTERNE



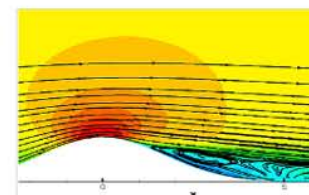
DTU'S DATA ARKIV OG PUBLICERINGSVÆRKTØJ

DTU Data er et arkiv hvor forskere kan dele og publicere forskningsdata

- Så det bliver søgbart, tilgængeligt, citerbart og genanvendeligt
- En skræddersyet applikation (repository) bygget på figshare's platform



Steady State Comparisons HAWC2 v12.5 vs HAWCStab2 v2.14
David Robert Verelst ▾ yesterday



Flow field over a Gaussian hill by RANS simulation
Ju Feng ▾ yesterday



Perdigão-2015: multi-lidar flow mapping over the complex terrain...
Nikola Vasiljevic ▾ yesterday



Perdigão-2017: multi-lidar flow mapping over the complex terrain...
Robert Menke ▾ yesterday

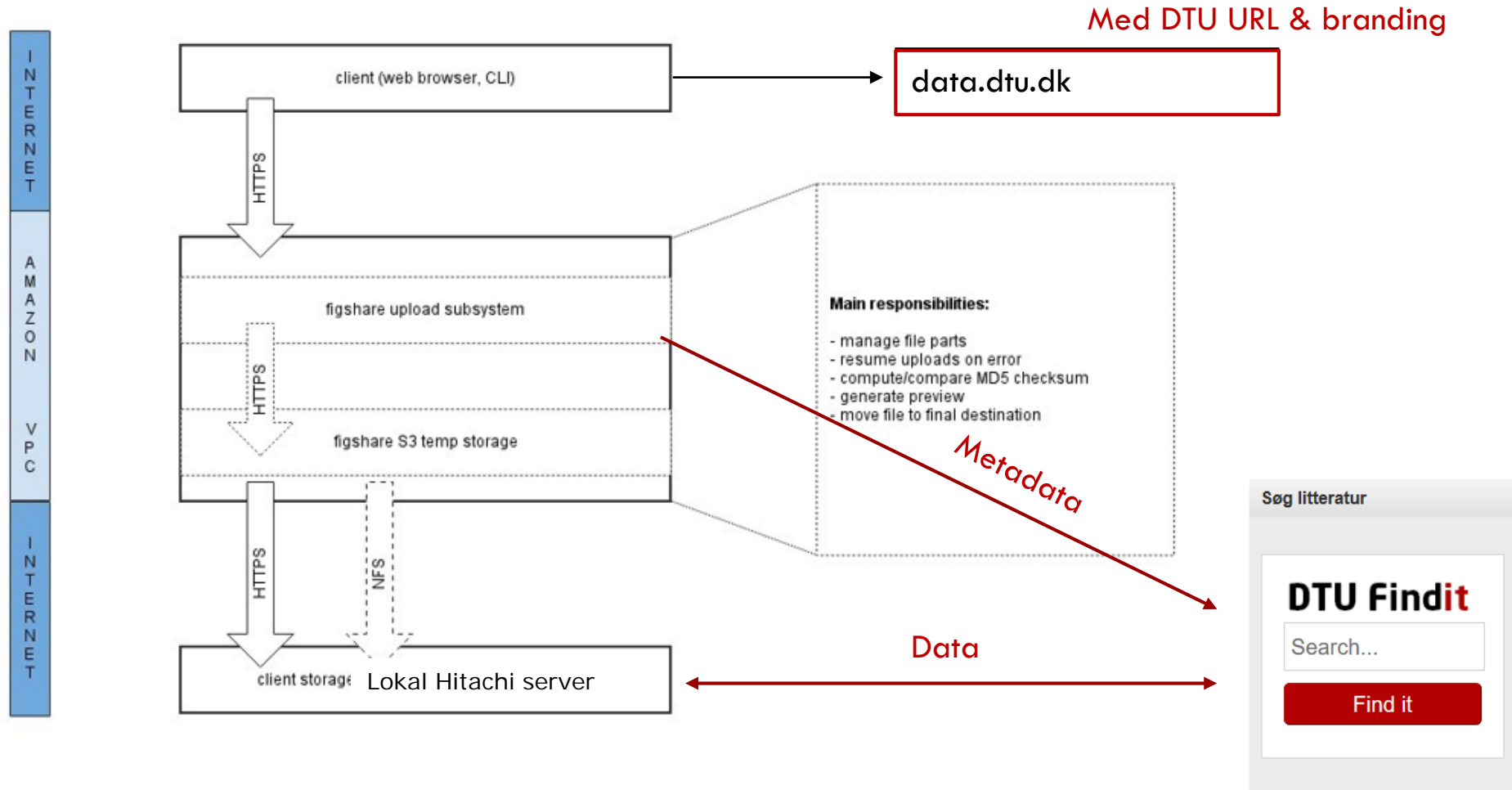
Projektgruppe: DTU Bibliotek, Gitte Bruun Jensen

Paula Martinez Lavanchy, Projektmedarbejder

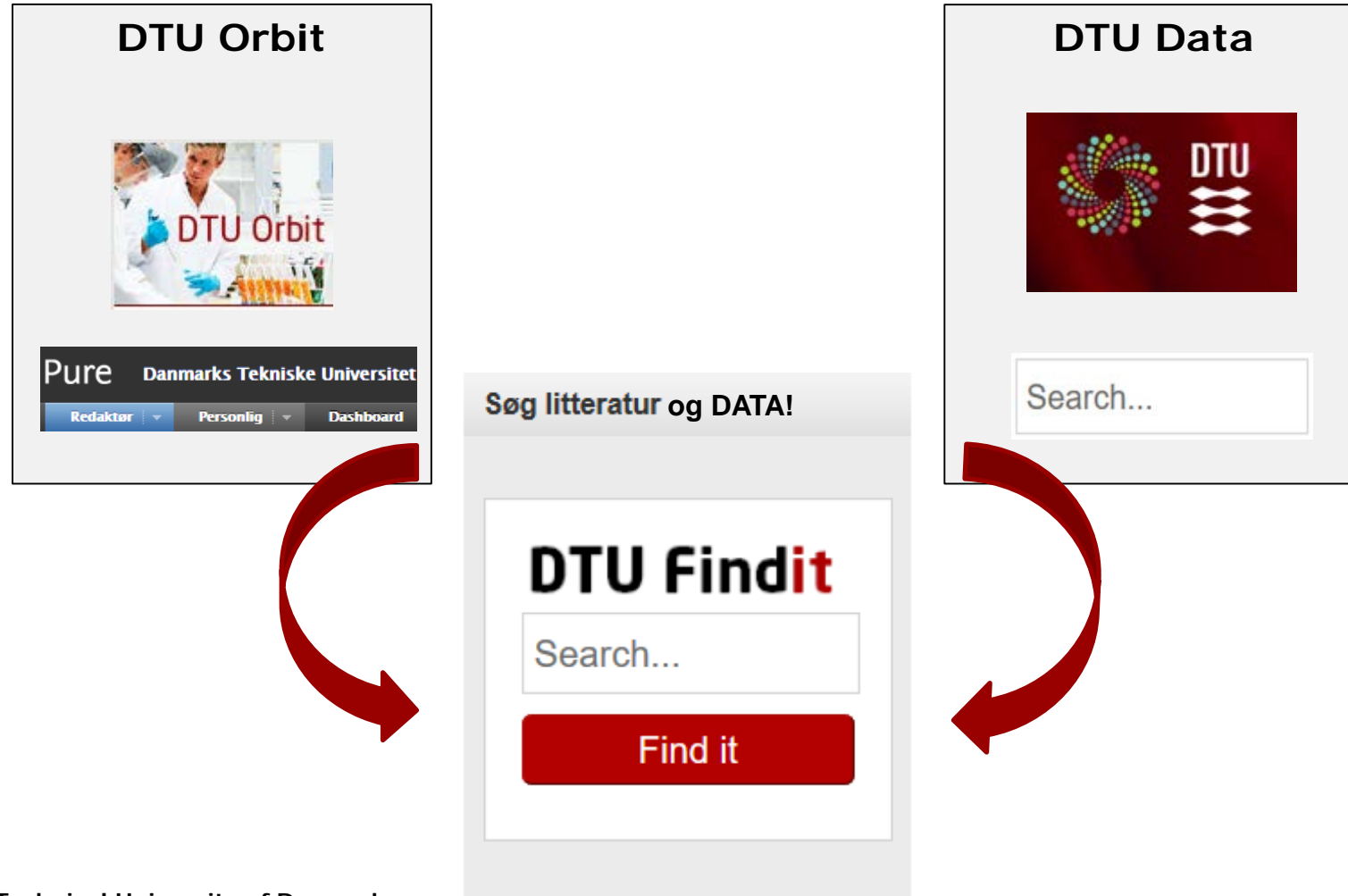
Falco Hüser, Projektmedarbejder

Søren Hovmand, IT konsulent

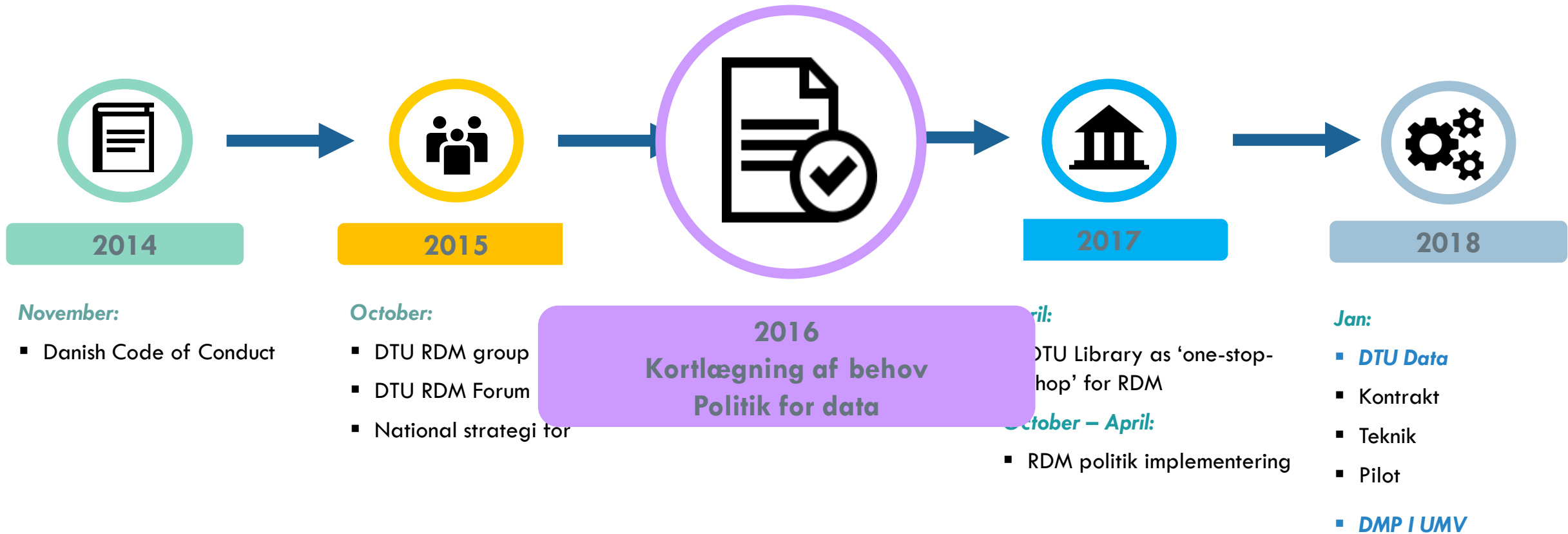
OG SÅ BARE EN SMULE TEKNIK



DTU's BIBLIOTEKS SERVICE SUITE

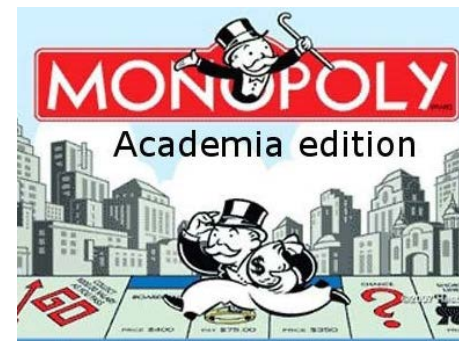
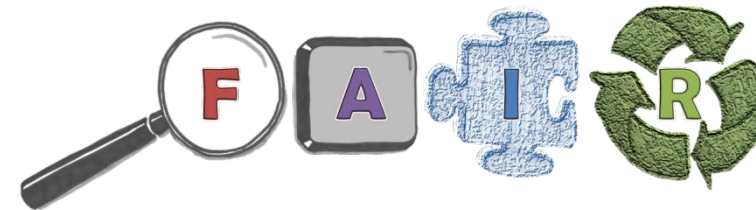


VEJEN TIL



ET DTU DATA REPOSITORIE SKAL

- Være et værktøj til at skabe FAIR forskningsdata
- Være kompatibel med DTU AIT storage
- Tilbyde open API
- Supportere DataCite og tilskrive DOI'er automatisk
- Ikke kræve (for mange) it udviklere – altså ikke være open source
- Være sustainable
- Minimere Vendor-lock-in



POLITIK FOR OPBEVARING AF PRIMÆRE MATERIALER OG DATA - FORMÅL

DTU's POLITIK VIL

- være i overensstemmelse med bedste praksis på de enkelte forskningsområder, normer, etiske protokoller, herunder fortrolighed og privatliv samt andre retlige krav, herunder [Danish Code of Conduct for Research Integrity](#)*1.
- sikre, hvor det er relevant, at der er adgang til primære materialer og forskningsdata, der **kan understøtte forskningsresultater, og bidrage til andre forskningsprojekter.**
- sørge for, hvor det er relevant, at forskningsdata understøtter Open Science ved at sikre, at **data kan findes, er tilgængelige og genanvendelige.**
- afstemme håndteringen af forskningsdata med **krav** fra bevillingsgivere og udgivere af videnskabelige tidsskrifter.
- At fremme synligheden og **anerkendelsen** af DTU's forskning.

POLITIK FOR OPBEVARING AF PRIMÆRE MATERIALER OG DATA - PRINCIPPER

DATA SKAL:

- Anerkendes som **værdifulde**
- Indtænkes ved planlægningen (ved opstart af et nyt forskningsprojekt) **DMP**
- Opbevares sikkert og forsvarligt (**storage**)
- Kunne findes, være tilgængelige, interoperabel og genanvendelige (**FAIR principperne**)
- Opbevares i overensstemmelse med de faglige traditioner eller i mindst **fem år** efter publicering eller offentliggørelsen af forskningsresultaterne
- Bortskaffes på korrekt vis (**Rigsarkivet**)
- Håndteres i overensstemmelse med etiske protokoller og møde juridiske krav om privatliv og databeskyttelse (**Sensitiv data**)

POLITIK FOR OPBEVARING AF PRIMÆRE MATERIALER OG DATA - ANSVAR

Lagring af data: DTU skal tilvejebringe et lagringssystem, der giver forskere mulighed for at forvalte deres data ansvarligt. Et sådant lagringssystem indbefatter: opbevaring, adgangskontrol og sikkerhedskopiering.

Forskningsdatakatalog: DTU skal stille et forskningsdatakatalog til rådighed, der gør det muligt at finde data, gøre dem tilgængelige og citere dem.

Støtte til forskningsdata management: DTU skal:

- 1) give mulighed for uddannelse og **efteruddannelse**
- 2) **rådgive** om praksis, juridiske problemstillinger og infrastrukturer
- 3) **udvikle** og vedligeholde almindelige systemer og infrastrukturer til forskningsdata management.

SPØRGSMÅL: ER DTU'S POLITIK SÅ KLASK ELLER KAROTTER?



Data Repository
(DTU's bibliotek)



Image: CCO

Archive storage
(DTU's afdeling for IT)

- Understøtte FAIR principperne og eksterne krav
- Facilitere genanvendelse af data
- Promovere forskningsresultater
- Åbne muligheder for metrics & rewards for dataset
- Link mellem data og publikationer
- Være et katalog over forskning

- Understøtte Code of Conduct (opbevaring af data i mindst 5 år efter publikation)
- Indeholder data and dokumentation
- Indeholder ikke-publiceret og sensitiv data
- Opbevaring af person data = Rigsarkivet
- Storage plads, adgangskontrol og back-up

~~PISK~~ KRAV FRA FONDSGIVERE



SOLUTION

Horizon 2020 already mandates open access to all scientific publications



From 2017, research data is **open by default**, with possibilities to opt out

“As open as possible, as closed as necessary”



PUBLICATIONS AND DATA



DATA SHARING

RDA Plenary Cartoons by Auke Herrema

HOW IT WORKS



KRAV FRA FORLAG

- Authors are required to make materials, data, code, and associated protocols promptly **available to readers** without undue qualifications.
- Any **restrictions on the availability** of materials or information must be disclosed.
- Supporting data must be made available to **editors and peer reviewers**.
- All manuscripts must include a **data availability statement**.

<http://www.nature.com/authors/policies/availability.html>



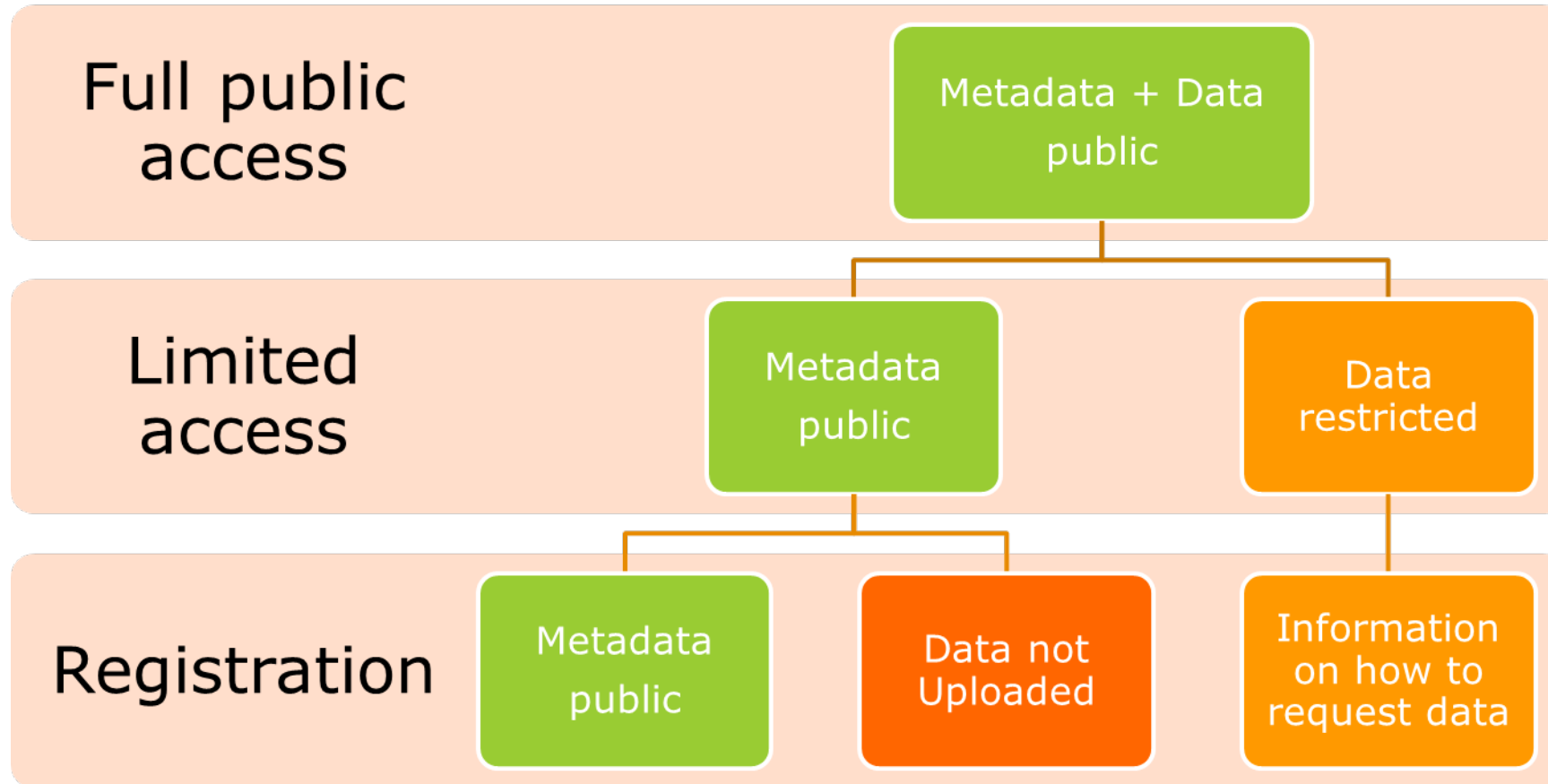
Data availability

The data shown in the plots and that support the findings of this study are available from the Research Data Repository of the University of Bristol at <https://doi.org/10.5523/bris.2ymwd4m50qkt26mtrhpli3d1i>.

Received: 11 October 2017; Accepted: 21 March 2018;

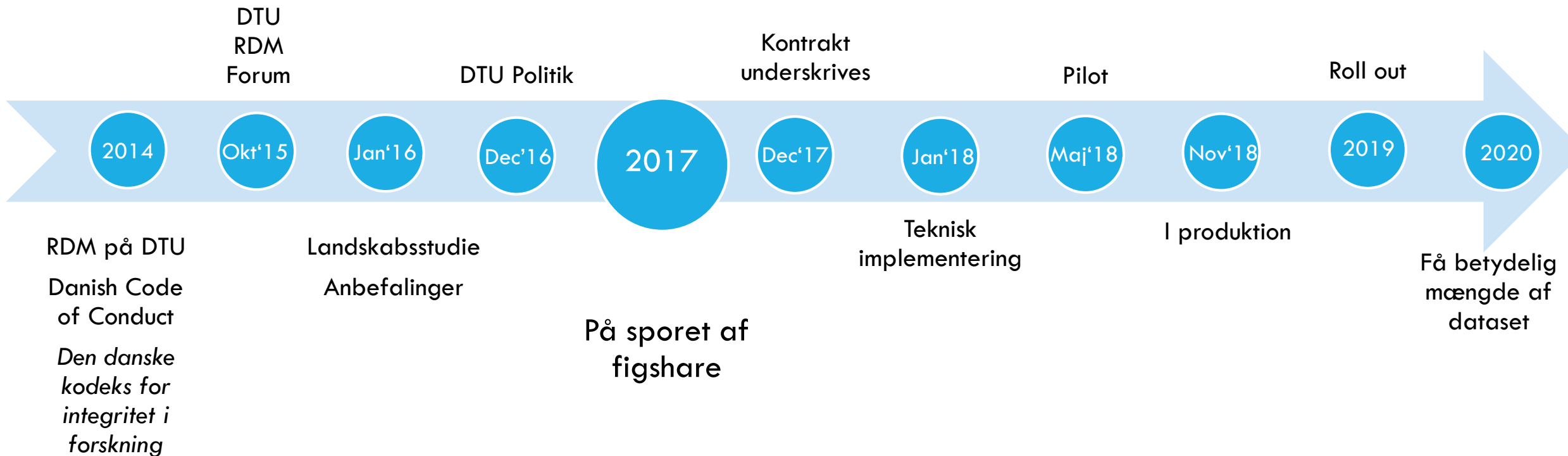
Published online 30 May 2018.

TRE NIVEAUER AF DELING



SÅ ÅBENT SOM MULIGT – SÅ LUKKET SOM NØDVENDIGT

SIMPELTHEN OG HJEM



VALGET

- Ingen Cloud
- Ikke Open source
- = figshare

Table 1. Comparison of Data Archive solutions				
Features	Zenodo (cloud)	Figshare (cloud/local)	ERDA (cloud)	4TU. Data Archive (cloud/local) OS
Software				
Deployment (Installation package, service, etc)				
Possibility of local installation at DTU				
Open source				
Documentation of the code				
Support and training service				
Customization of GUI				
Institutional DataCite DOIs				
OAI-PMH				
Open API				
Storage				
Storage locally at DTU				
Extraction of data and metadata				
Functionalities				
Single sign-on (SSO)				
ORCID				
Set up of individual workspaces / group spaces				
Define different user roles				
Review function / validation workflow				
Embargo (access) management				
Handling of real-time data (auto upload)				
Flexible Metadata schema				
Record license specification				
Minting DataCite DOIs to data sets and metadata				
Logging of data view/downloads				
Altmetrics				
Links to research grants				
Links to publications				
Price				
Initial subscription price				
Free storage size limit				
Price per GB above this limit				
Price per year				
Size limit				
Default uploaded file size limit				
File size limit on request				
Number of files that can be stored				
Total allowed storage capacity				
Data				
Withdrawal				
Revocation of DOIs				
Encryption				
Virus check				
Storage of sensitive data				
Preservation				
Retention period				
Functional preservation				
File preservation				
Fixity and authenticity				
Curation				



HVOR FAIR ?

	Figshare	EUDAT-B2Share	Zenodo
	https://figshare.com/	https://b2share.eu/dat.eu/	https://zenodo.org/search?page=1&size=20&q
FINDABLE			
(meta)data are assigned a globally unique and eternally persistent identifier	g	g	g
data are described with rich metadata	g	r	o
(meta)data are registered or indexed in a searchable resource (able to google data-objects)	g	g	o
metadata specify the data identifier	g	g	g
ACCESSIBLE			
(meta)data are retrievable by their identifier using a standardized communications protocol	g	g	g
the protocol is open, free, and universally implementable	g	g	g
the protocol allows for an authentication and authorization procedure, where necessary	g	g	g
metadata are accessible, even when the data are no longer available	b	b	b
INTEROPERABLE			
(meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation*	g	g	g
(meta)data use vocabularies that follow FAIR principles	r	r	r
(meta)data include qualified references to other (meta)data	g	r	g
RE-USABLE			
meta(data) have a plurality of accurate and relevant attributes	o	r	g
(meta)data are released with a clear and accessible data usage license	g	g	g
(meta)data are associated with their provenance	r	r	r
(meta)data meet domain-relevant community standards	b	b	b



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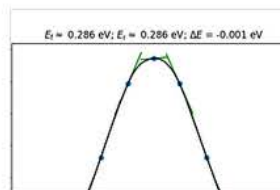
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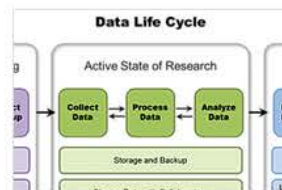
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[SEARCH](#)



Supporting data - Effects of the cooperative interaction on the diffu...
Ivano Eligio Castelli ▾ 01/08/2018



DTU Research Data Life Cycle
Falco Jonas Hüser ▾ 25/11/2016



DTU Data Management Plan
Falco Jonas Hüser ▾ 10/10/2016

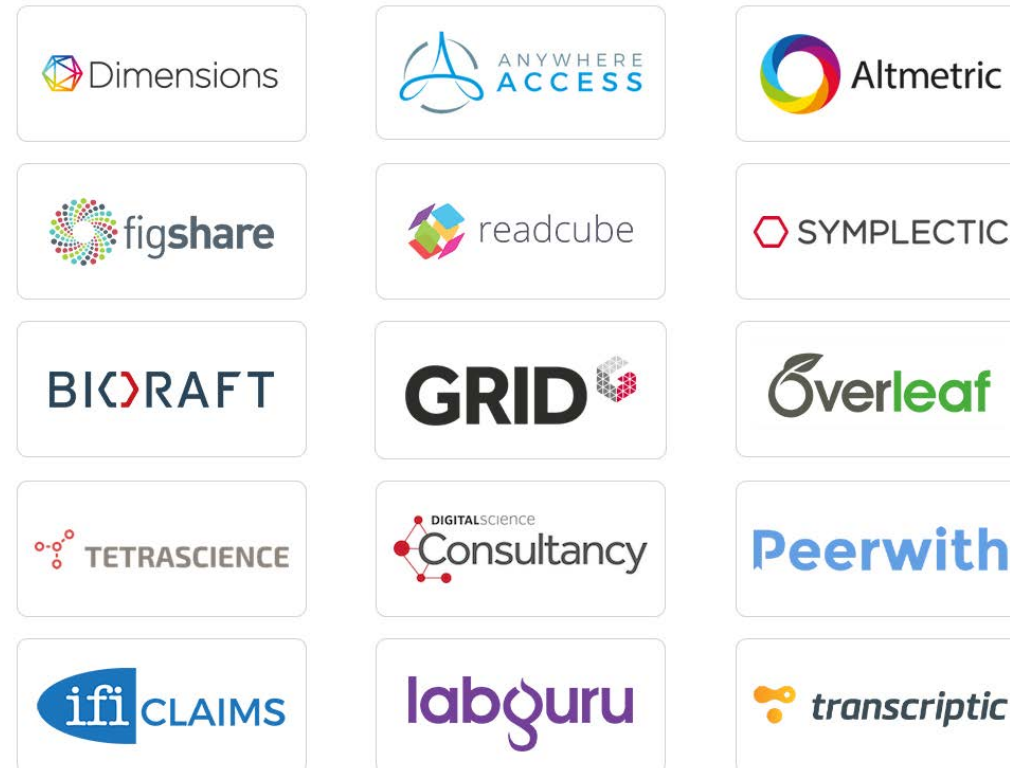
OM FIGSHARE

Holtzbrinck Publishing Group

Udspringer af [Nature Publishing Group](#)/[Macmillan](#)

Implementering:

- Team fra Figshare
- Basecamp
- Md. Zoom møder











DTU Figshare sandbox - for testing only. This is NOT the production environment

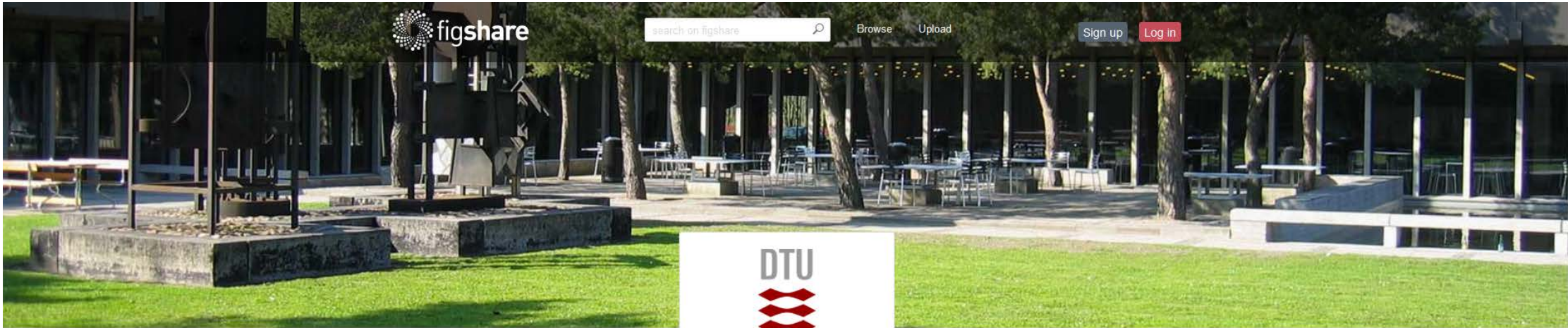


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NEW POPULAR CATEGORIES SEARCH

- 
CODE
This small MATLAB code has been used to generate the plots in the W...
Georg Pirrung 22/08/2018
- 
CODE
Aerodynamics code used in Wind Energy Science paper "Compariso...
Georg Pirrung 22/08/2018
- 
PROJECT
Project: Group project - part of a collection
Soren Hovmand 21/08/2018
- 
METADATA RECORD
Test of project within a collection
Soren Hovmand 21/08/2018
- 
METADATA RECORD
- 
METADATA RECORD
- 
DATASET
- 
DATASET



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- DTU Environment
- DTU Aqua
- DTU Biosustain
- DTU Civil Engineering
- DTU Electrical Engineering
- DTU Food
- DTU Bioengineering
- DTU Chemical Engineering
- DTU Compute
- DTU Energy
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My data



My data



My data



My data



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Metadata record only
 Link file

Title

Authors

Paula (User) Martinez Lavanchy
✕

Search co-authors by name, full email or ORCID. Hit enter after each.

Categories

Select categories
▼

Item type (what's this?)

Dataset
▼

Keyword(s)

Add keywords for easy discovery. Hit enter after each

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Describe your data as well as you can

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References

Link to references or related content

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STORAGE MANAGEMENT

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<input type="checkbox"/>	reviewer test of 1 day embargo review test	●	DATASET	19.4.2018 12:47	135.73 kB
<input type="checkbox"/>	item under embargo with file	●	PRESENTATION	19.4.2018 12:15	609.28 kB
<input type="checkbox"/>	review test 4 review test	●	PRESENTATION	19.4.2018 11:24	609.28 kB
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review test 4

Katrine Admin Holmstrand ▾ 24/04/2018

DATA | DTU DATA



Supporting data - Effects of the cooperative interaction on the diffusion of hydrogen on MgO(100)

Fileset posted on 01.08.2018, 11:36 by [Ivano Eligio Castelli](#), [Stefan Gabriel Soriga](#), [Isabela Costinela Man](#)

663 views | 75 downloads | 1 citations

This dataset is the supporting data for the manuscript "*Effects of the cooperative interaction on the diffusion of hydrogen on MgO(100)*", I.E. Castelli, Stefan G. Soriga, Isabela C. Man, J. Chem. Phys. 49, 034704 (2018). In the manuscript, we have investigated the role of pre-adsorbed fragments on H diffusion on MgO(100).



The data set contains all the relaxed structures and Nudged Elastic Bands (NEB) calculations in xyz and traj (Atomic Simulation Environment - ASE) format. Each structure can be visualized with the command:

```
ase gui filename.traj (or .xyz)
```

The NEB calculations with:

```
ase gui -n -1 *initial.traj *im?.traj *final.traj
```

and then select NEB from Tools. An example of the plot of a NEB calculation is the figure included here.

The scripts used to run and analyze the calculations are included in the archive.

A README file with more information about the data set and links have been provided.

The ASE code can be found here: <https://wiki.fysik.dtu.dk/ase/>

- CATEGORIES
- Catalysis and Mechanisms of Reactions
- KEYWORD(S)
- DFT Calculations
 - Catalysis on Semiconductors
 - Cooperative Interactions
 - Hydrogen Diffusion
 - Nudged Elastic Bands

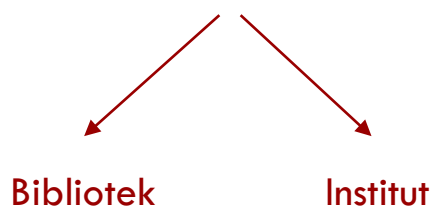
LICENCE

- EXPORT
- RefWorks
 - BibTeX
 - Ref. manager
 - Mendeley
 - Endnote
 - DataCite
 - NLM
 - DC

- REFERENCES
- <https://wiki.fysik.dtu.dk/ase/>
- RELATED PUBLICATION REFERENCES
- <http://doi.org/10.1063/1.5029329>

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Kuratering ved publikation



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Image/illustration: NASA

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DATASET
Geomagnetic data - ASCII

FILESET
FHB_20160601.cdf

4 institutter.. 4 behov og 1000 ønsker
Præsentationer, møder, ambassadører
Klistret op på politikimplementering
Transparent samarbejde



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Home

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figshare pilot - DTU Wind

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Notebook

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Site Contents

EDIT LINKS

Example Dataset and webpage from Søren Forchhammer's group

The links are the following:

<http://resources.mpi-inf.mpg.de/LightFieldVideo/Dataset.html>
<https://www.iis.fraunhofer.de/en/ff/amm/dl/lightfielddataset.html>

The first link contains all meta data. In a Licenses are directly included.

The same hold for the second link. The r
@InProceedings(Ziegler2017,
Title = {Acquisition system
Author = {Ziegler, Matthias
Booktitle = {3DTV-CON 2017}
Year = {2017},

meeting notes 28.06.2018 (Lars, Sansl

Metadata & Keywords

- Photonics does not need custom
- Department section should not b
- The pilot phase with Photonics st

Lars data set

- Lars is ready to upload a small da
- Paula will send him instructions t

Søren dataset

- Søren has an H2020 project Rea
- Within the project they will devel
- Question: is there code also part
- 1 Zip file with a collection of pict
- 1 Zip file contains one folder for
- They would initially need 2TB for
- External partners will need access

To do:



figshare pilot - DTU Compute

Home

figshare pilot - DTU Space

figshare pilot - DTU Fotonik

figshare pilot - DTU Compute

figshare pilot - DTU Wind

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EDIT LINKS

meeting notes 29.05.2018 (Tommy, Per, Henning, Falco, Katrine)

- check access to SharePoint site (**Falco**) - **done**
- adjust notifications upon publishing items (**Falco**)
- test automatic upload of metadata (**Tommy, Per, Henning**)
- revise process of selecting categories - **reported to figshare**
- discuss usefulness of categories - **reported to figshare**
- simplify download of most common citation styles - **this is already available on the right-hand side for each publication**
- test upload of complete folders (**Tommy, Per, Henning**)
- test upload of zipped folders (**Tommy, Per, Henning**)
- show affiliations for all authors of an item - **reported to figshare**
- investigate possibility for multiple project owners - **not possible**

- easier navigation - **reported to figshare**
- set "uncategorised" as category default - **reported to figshare**
- display top level categories - **reported to figshare**
- revise list of data types - **reported to figshare**
- retraction of published files - **only possible for system administrators**
- publication of erratum (**Falco**)
- pull keywords automatically from description (**Falco**)
- adjust metadata scheme depending on data type (**Falco**)
- text formatting in description field (**Falco**)

DTU DATA ET OPDATERET FAIR VÆRKTØJ

- METADATA RECORD

Steady State Comparisons HAWC2 v12.5 vs HAWCStab2 v2.14
David Robert Verelst 02/11/2018
- METADATA RECORD

Wind tunnel tests of a three bladed, downwind, free-yawing wind turbin...
David Robert Verelst 02/11/2018
- Flow field over a Gaussian hill by RANS simulation
Ju Feng 10/09/2018
- CODE

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Item Type	Title	Author	Date
CODE	This small MATLAB code has been used to generate the plots in the W...	Georg Pinung	22/08/2018
CODE	Aerodynamics code used in Wind Energy Science paper "Compariso...	Georg Pinung	22/08/2018
DATASET	Perdigão-2015	Nikola Vasićević	15/08/2018
DATASET	Test dataset	Sergei Semenov	13/08/2018

- Diskussion af taxonomi for 7 niveauer af metadatafelter (topic, variables, instruments, models, materials, conditions and activities)
- Inkluderet i projekt om 'FAIR Digitalization WP of Big Data and Digitalization'
- To WS 'data Policies and Guidelines' og 'Data Platform and Rewarding System'
- To sprints arrangeret til diskussion, træning og dataset upload

Categories

Select categories ▼

search categories by keyword(s) ... 🔍

- Chemistry
- Commerce, Management, Tourism and Services
- Earth and Environmental Sciences
- Engineering** ▶
- Health Sciences
- Humanities
- Information and Computing Sciences

Categories

1 selected ▼

energy ×

- Renewable Power and Energy Systems Engineering (excl. Solar Cells)
- High Energy Astrophysics; Cosmic Rays
- Energy Generation, Conversion and Storage Engineering
- Power and Energy Systems Engineering (excl. Renewable Power)

PILOT - DTU VINDENERGI

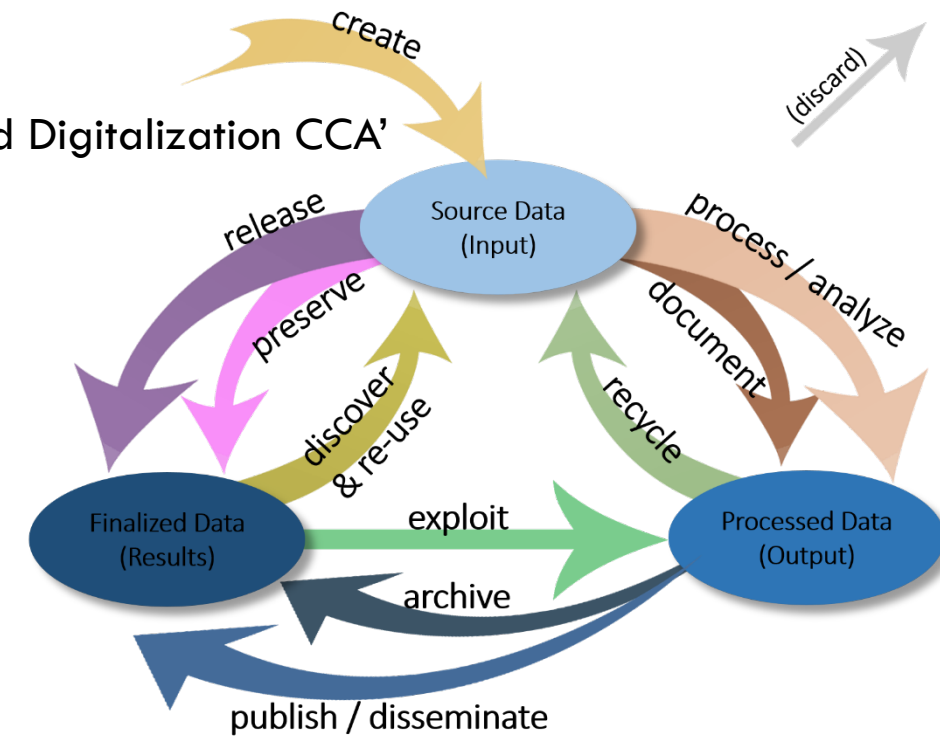
Formål at publicere data og metadata fra alle sektioner af DTU Vind Energi.

To dedikerede forskere driver projektet 'FAIR Digitalization WP of Big Data and Digitalization CCA'

DTU Data enables the publication of FAIR datasets by:

- providing persistent identifiers (DataCite DOI's)
- providing standard usage licenses (Creative Commons)
- exposing machine-readable metadata
- providing open access to metadata (and data)

En ny taxonomi for DTU Vind energis metadata blev udviklet og implementeret i DTU Data.



OG:

- Test af tidsskrift review og dedikeret link
- Test af reservation af DOI
- Test af datavisualisering, quota, og ekstern adgang til dataset

FEATURES

- Simple user interface
- Collaborative workspaces
- Standard metadata og licenser
- DOI assignment
- Private links
- Metadata records
- Embargo perioder
- Restricted access
- WAYF login
- GitHub integration
- Open API

figshare is a repository where users can make all of their research outputs available in a **cit**able, **share**able and **discover**able manner

FIGSHARE PROVED TO BE A GOOD IDEA. SINCE 2012 WE HAVE OFFERED...

26 million +
page views

7.5 million +
downloads

800,000 +
user uploads

2 million +
articles

500,000 +
collections

5,000 +
projects

DTU BIBLIOTEK ØNSKER

- At være the one-stop-shop for RDM
- At inspirere til RDM drevet af forskerne
 - Motivation
- Understøttet af kompetencer, værktøjer og nærvær
- Bevidst motivation .. Rewards?
- Nemt & overskuelig prismodel
- Skabe FAIR Forskningsdata
- Så lækkert som muligt, så sikkert som muligt og så flytbart som muligt. **Og åbent**

Changing a Research Culture



(illustration by Brian Nosek, Center for Open Science)

SPØRGSMÅL ?

