

A FAIR Software Route: The Dutch Way

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Data Archiving and Networked Services

DANS

- Introductions
- FAIR Software Route Project
- FAIR Software?
- The way forward
- Conclusions



But it is a dense forest and there are many pathways...

Aim of this joint project:

“To design a common route along which researchers in the Netherlands are informed on how to deal with software and code developed during research projects, or delivered after research projects, in order to guarantee persistent storage, optimal access and re-usability and proper citation”

(Joint brainstorm meeting DANS & NLeSC, 13-6-2018)

Final product:

- Online **platform / website** that guides researchers and developers towards the FAIRification of their software and code.
- Short track: first version operational in spring 2019.
- Must have's:
 - guidance on **metadata**
 - getting the right **persistent identifiers**
 - finding the right **repository**

This project is part of a larger endeavour.....

Wireframe landing page research-software.nl

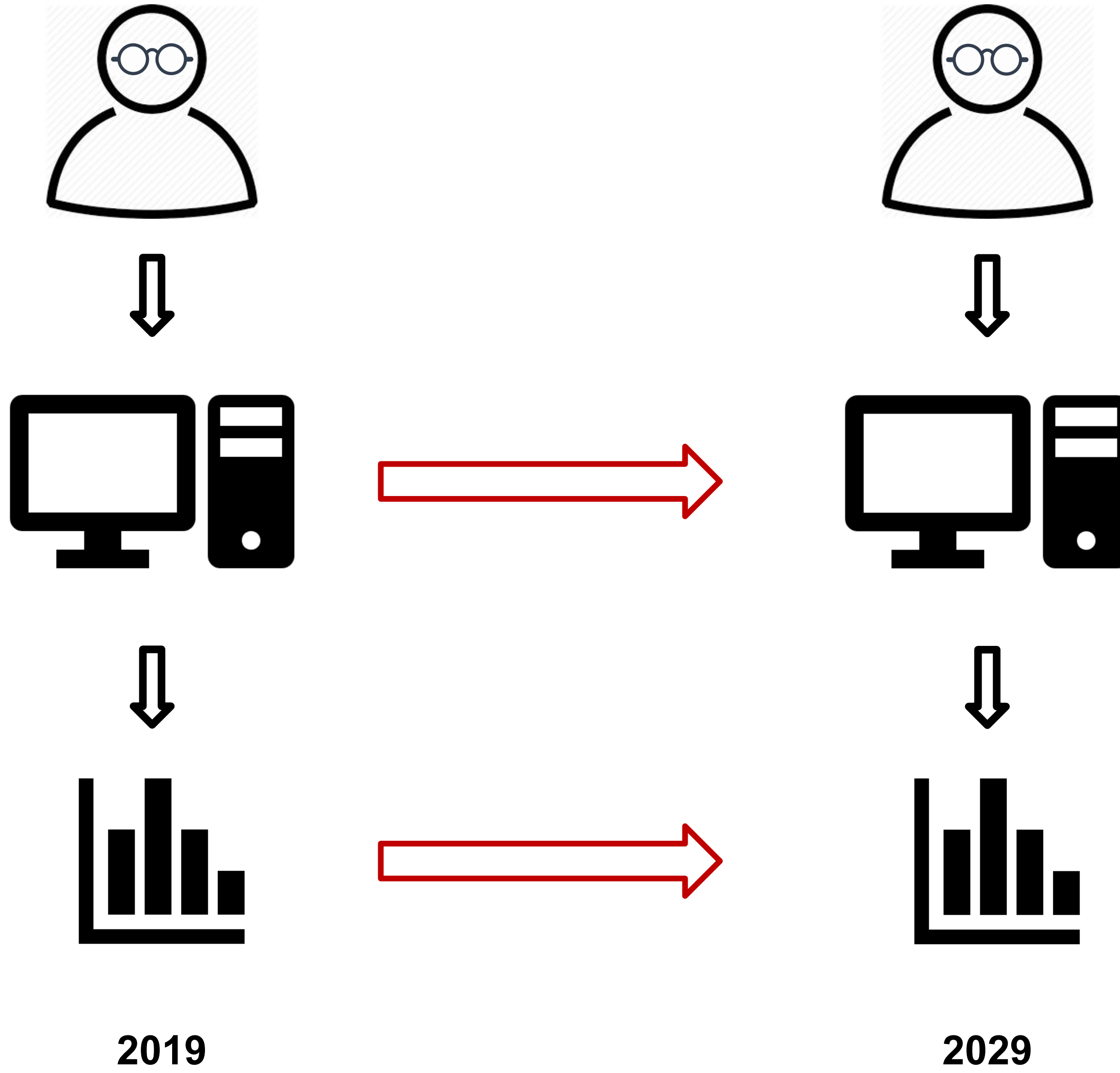
Research Software.NL

Knowledge base for researchers and research software developers. Best practices, workshops, overviews and step-by-step guides for developing and publishing sustainable open source research software.

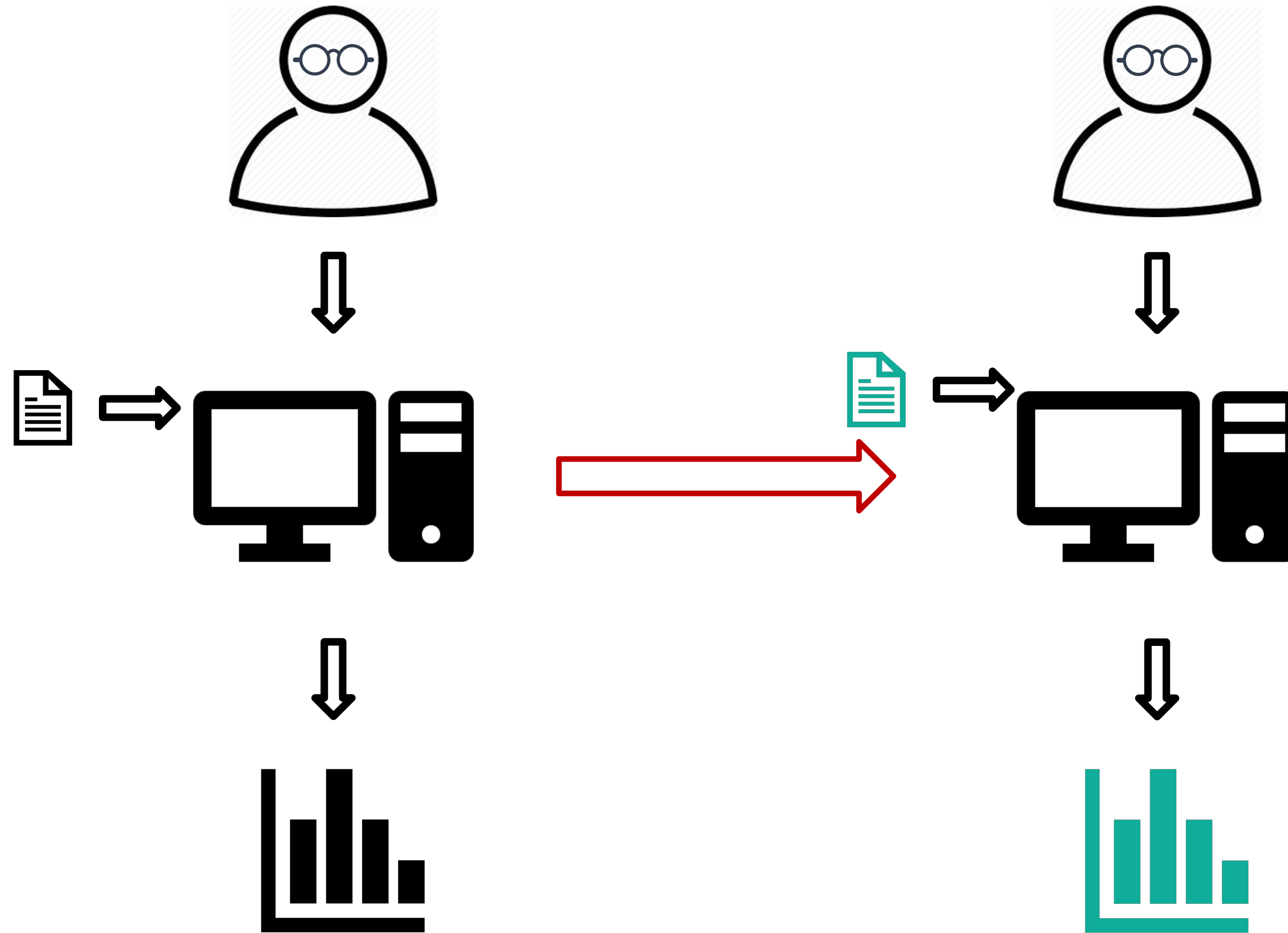
FIND	DEVELOP	PUBLISH	REPRODUCE
<ul style="list-style-type: none">• Research Software Directories	<ul style="list-style-type: none">• Open source programming• Collaboration tools• Quality control & testing	<ul style="list-style-type: none">• Licences• Permanent identifiers• Software citation• Long-term archiving	<ul style="list-style-type: none">• Version control• Workflows & provenance• Containers & virtualization

This page is maintained by the Netherlands eScience Center, the center of expertise for the development and application of research software.

- Findable
- Accessible
- Interoperable
- Reusable



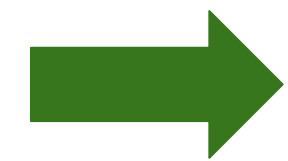
FAIR software objective



Nice!

But... how exactly am I supposed to do that?

The core Modules of the project.....



Inventory / landscaping: **metadata** for software and code, existing **projects**, initiatives, **platforms**, **guidelines** and **repositories**.

Dealing with all aspects of FAIR



Developing software repository **guide** (interlinked decision tree?)
Important element: Use cases / input “panels” from different disciplines.

Accessible



Indexing and **presentation** in NARCIS (and other catalogues).

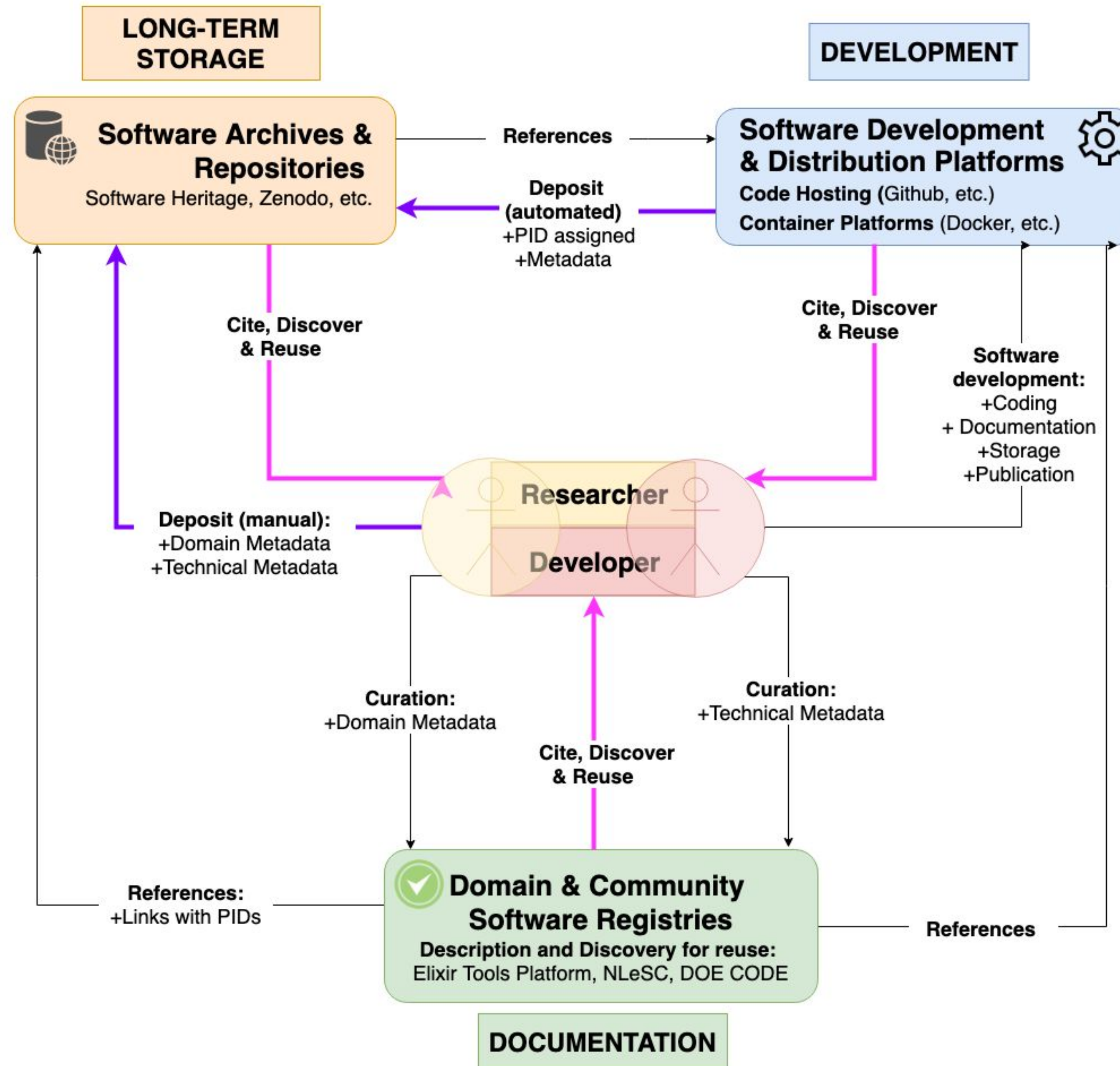
Findable

Communication (external).

Coordination.

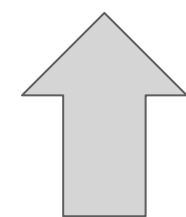
And obviously: Integration with **ResearchSoftware.nl**

A complex landscape

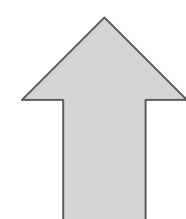


Software Route

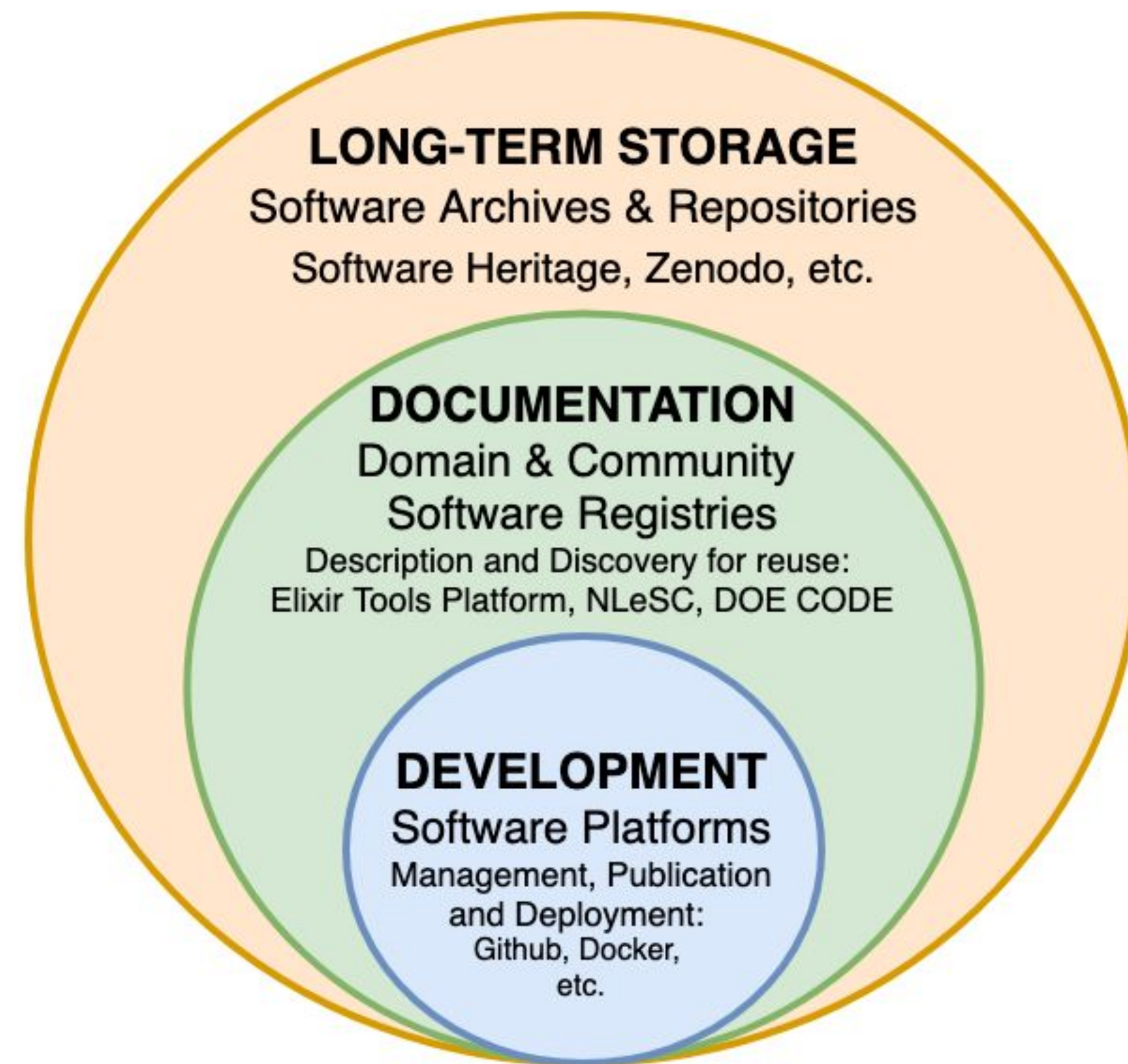
Zenodo/Software Heritage (?)



Registry
(Discipline Flavour)



GitHub.com (?)



SOFTWARE PRESERVATION & SUSTAINABILITY

FAIR Software Route ?

- FAIR Principles for software
- Different levels of FAIR compliance for different types of software (similar to curation levels for datasets)
- Initial (minimum) focus on Findability and Accessibility
- Provide recommendations for good (FAIR) coding practices
- Centralized versus decentralized route:
 - Distributed chain of responsibilities
 - Single point of failures

First results:

Software from the DUTCH
Research Software Directory
(RSD) indexed by NARCIS the
Dutch National Scholarly
information portal:

Improved metadata + findability

The screenshot shows the NARCIS (Netherlands Archiving and Networked Services) website. At the top, there is a navigation bar with the DANS logo (Data Archiving and Networked Services) on the left and the NARCIS logo on the right. The top right corner contains links for HOME, ABOUT NARCIS, LOGIN, and NEDERLANDS. Below the navigation bar, there is a blue header with navigation links: < BACK TO SEARCH RESULTS, < PREVIOUS, 8 out of 8 results, and NEXT >. The main content area features the Netherlands eScience Center logo on the left and the dataset title '3D-E-CHEM/KNIME-PYTHON-WRAPPER: V2.0.1 (2018)' on the right. Below the title, there is a 'Main' tab and a list of metadata fields and values:

Title	3D-e-Chem/knime-python-wrapper: v2.0.1
Creator	Stefan Verhoeven (Netherlands eScience Center)
Date issued	2018-02-07
Access	Open Access
Type	Dataset
Publisher	Zenodo
Abstract	<p>Abstract Python wrapper KNIME node and helpers. Used for development of KNIME nodes calling Python scripts.</p><p>Version 2 allows nodes to use Python version 2 or 3 and different serializers.</p><p>Changed</p>Replaced PythonKernel from org.knime.python to org.knime.python2 (#4)
Rights	GNU General Public License v3.0 only; Open Access
Dataset	> doi:10.5281/zenodo.1168379
Persistent Identifier	> 10.5281/zenodo.1168379
Url	> https://zenodo.org/record/1168379
DOI	> 10.5281/zenodo.1168379
Related	> https://github.com/3D-e-Chem/knime-python-wrapper/tree/v2.0.1
Related	> doi:10.5281/zenodo.597238
Metadata	> XML
Source	RSD-NLeSC

At the bottom of the page, there is a footer with a 'CONTACT' link on the left and the text 'DANS is an institute of KNAW and NWO' on the right, accompanied by logos for KNAW and NWO.

- Step-by-step approach is required:
 - Building community efforts: Researchers / Software developers / Repositories
 - Incentives (internal & external)
 - Skills (training)



WOSSS19

WORKSHOP ON SUSTAINABLE SOFTWARE SUSTAINABILITY

Sustainable Software Sustainability focuses on long term supported solutions for Software Sustainability. It addresses two forms of sustainability:

- How to cope with the existing legacy software
- How to prevent new legacy to be created today

WOSSS19 will be an interactive workshop introducing topics by leaders in the field followed by discussions amongst leaders and practitioners regarding software sustainability.

Are you interested in software sustainability? Then this is the workshop for you to attend!

Location:
NWO Den Haag
Laan van Nieuw Oost-Indië 300
2593 CE The Hague

APRIL 24-26 2019

Cost: Free (registration required)

For more information contact:
Patrick Aerts / p.aerts@esciencecenter.nl
Shoaib Sufi / s.sufi@software.ac.uk

<http://bit.ly/wosss19>



Software
Sustainability
Institute

Data Archiving and Networked Services

DANS

netherlands

eScience center

Thank you!

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- RSD => OAI-PMH service
- DataCite Metadata Schema 4.0
- Start with ca. 80 software “datasets”
- In NARCIS linking papers - datasets - software - researchers
- Metadata discipline is an issue...
- further developments on their way

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