



# PIDs in an early phase research data management platform: RSpace

## PID4NFDI workshop 2024-11-11

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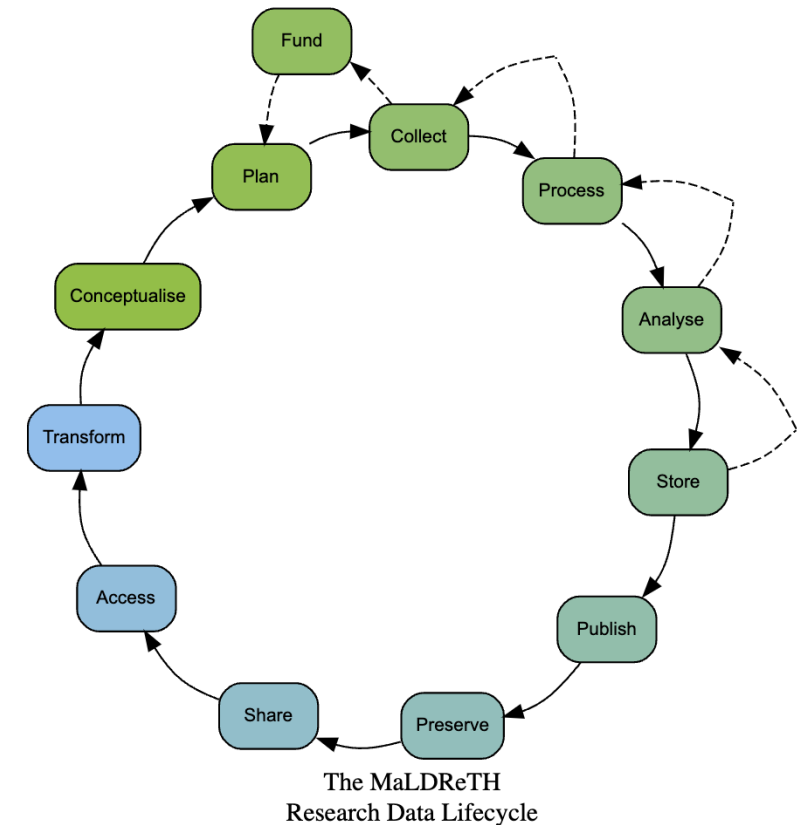
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# PIDs in the research (data) lifecycle



- Traditionally in the **research publication** phase
- Mainly for **public objects**, e.g. pre-registrations and data deposits
- PIDs are often an **afterthought** to digital object creation
- Are **local IDs** sufficient in the early research phase?
- **Can we achieve higher quality PID and research object metadata through "early" registration and subsequently maintaining PID:object association as they pass between through tools/services in the research lifecycle?**

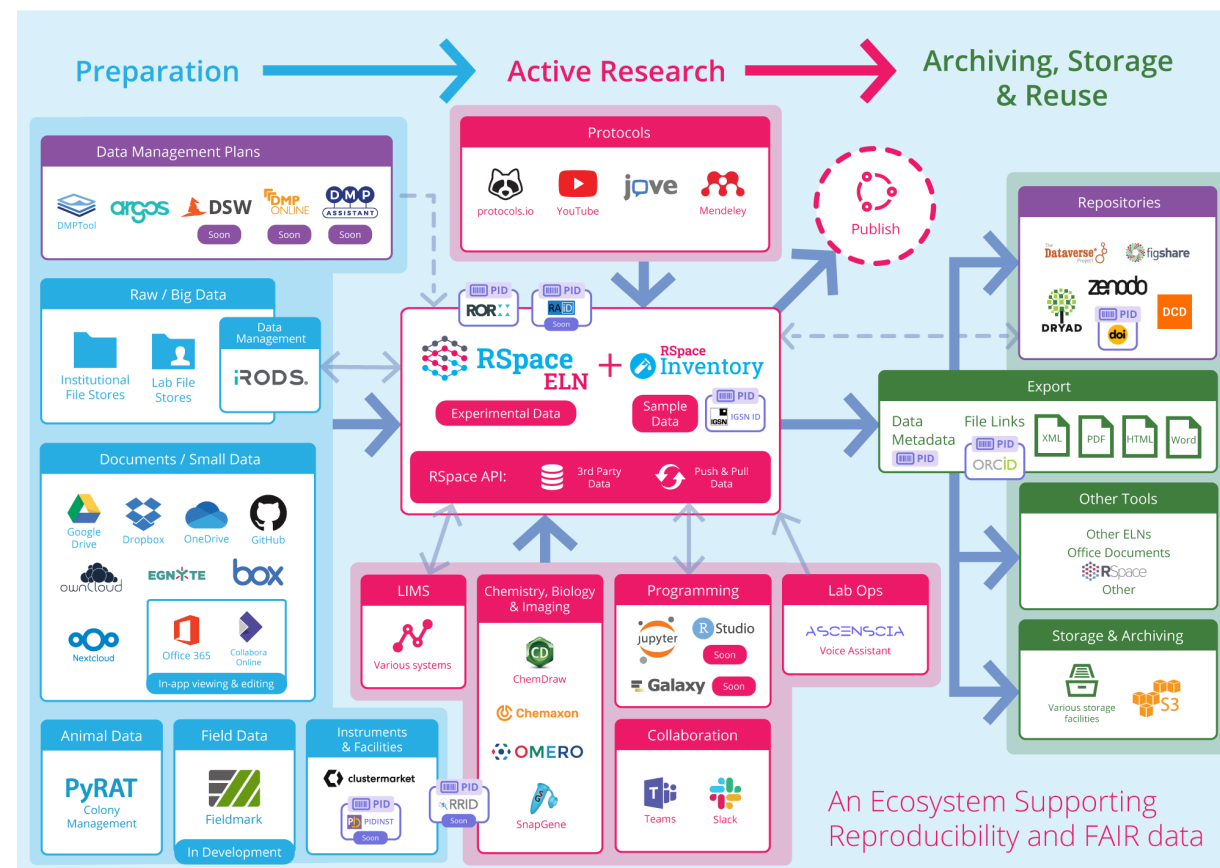


<https://www.rd-alliance.org/groups/rda-ofr-mapping-landscape-digital-research-tools-wg/forum/topic/re-rda-ofr-mapping-landscape-digital-tools-re-rda-ofr-maldreth-draft-deliverable-1-for-wg-review/>

# What is RSpace?



- **Open-Source Research platform** for Institutional Research Data Management
- Electronic lab notebook + sample management system, **vertically interoperable** with other digital tools and infrastructure
- How might we provide **scalable research object & metadata workflows** in a connected digital research ecosystem?



# PIDs in RSpace

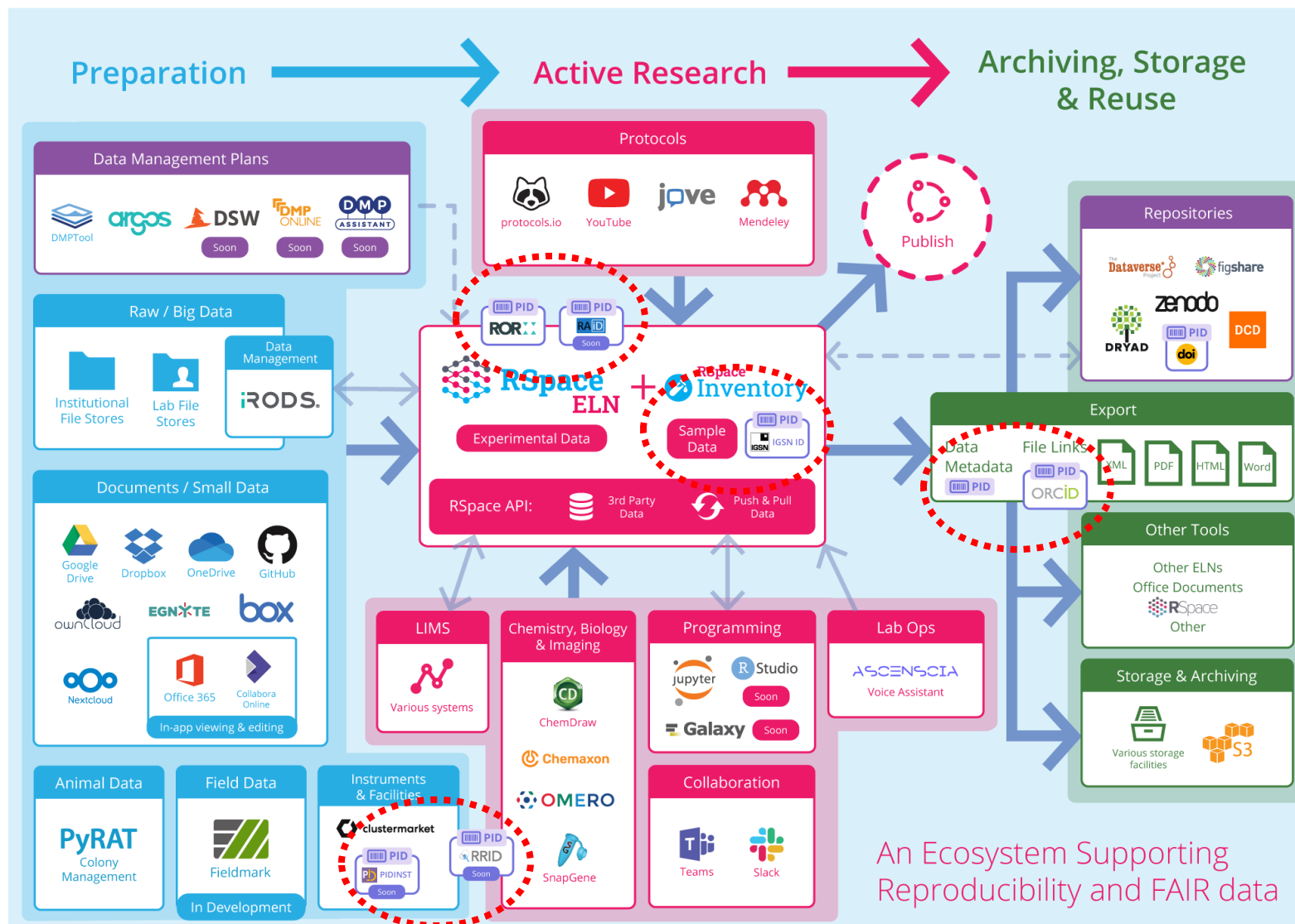


ORCID

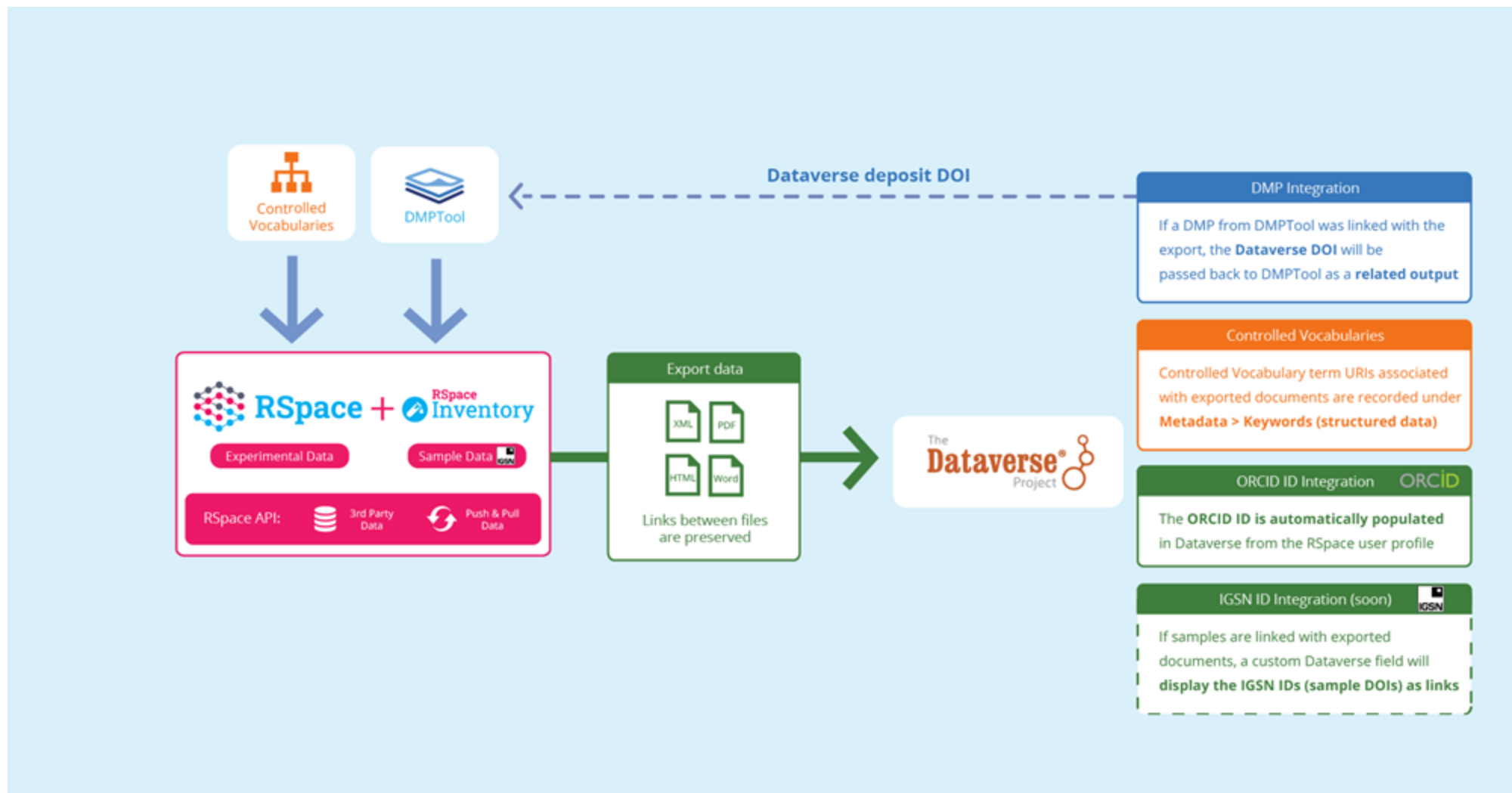
ROR

IGSN

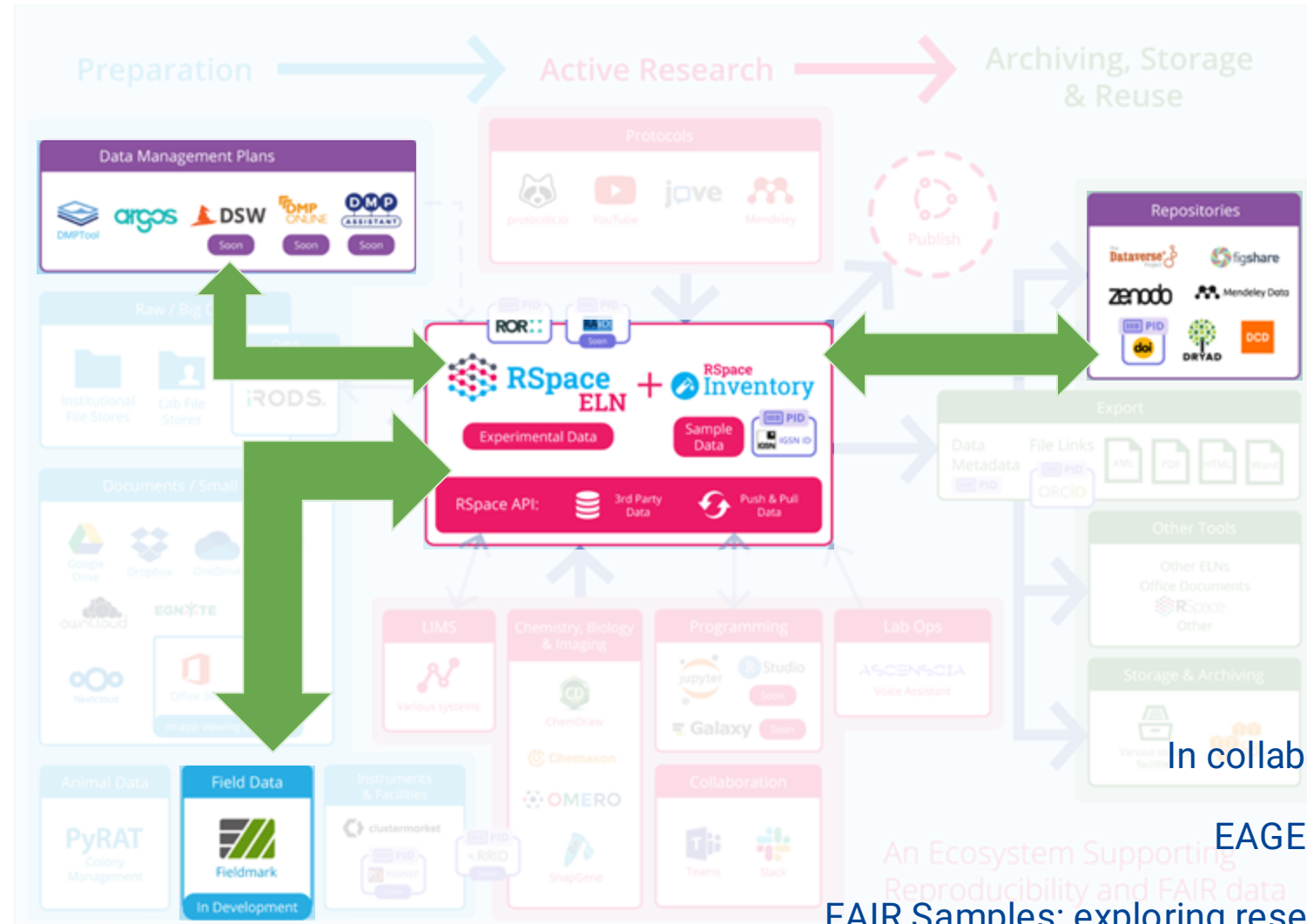
planned: PIDINST, RRID, RAiD, ...



# Manage PIDs in an end-to-end workflow: DMP + ELN + Inventory + Repository



# Next: PIDs in an offline sample collection workflow



In collaboration with CDL/UC3

EAGER: CI PAOS #2433320

An Ecosystem Supporting  
Reproducibility and FAIR data  
FAIR Samples: exploring research and sample data  
management best practices in place-based research

# Sample Management in RSpace Inventory



The screenshot displays the RSpace Inventory application interface. On the left is a navigation sidebar with options like 'Inventory', 'Create', 'Import', 'My Bench', 'Containers', 'Samples', 'Templates', 'Export Data', 'RSpace ELN', 'Need Help?', and 'Sign Out'. The main area shows a search bar and filters for 'Type: Containers' and 'Status: Current', resulting in 11 top-level containers found. A table lists these containers with columns for Name and Global ID. The 'Chemical Cupboard' (IC2981930) is selected and its details are shown in a right-hand panel. This panel includes an 'Overview' section with fields for Name, Owner (Maria LabHead), Location (Containers / Chemical Cupboard), and Type (List). Below this are expandable sections for Details, Barcodes, Attachments, Access Permissions, and Custom Fields.

Name	Global ID
-80Freezer	IC3276800
Antibodies and buffers -20	IC2981899
Chemical Cupboard	IC2981930
Fly Stock Room (18 degrees)	IC2981918
Matthias fridge	IC2981924
Nico's fridge	IC2981923
Robert's fridge	IC2981922
Enzyme freezer	IC2981906
Liquid Nitrogen tank	IC2981900
Vaida's fridge	IC2981898

# PIDs for material samples



- **IGSN IDs**
- International Generic Sample Number (originally Geo)
- Under the hood, DataCite DOIs
- DataCite indexes metadata for searching & PID graph
- Citable & shareable **public landing pages** with:
  - **IGSN-schema metadata** (searchable)
  - **domain-specific metadata** (customisable)



\* “Enhancing interoperability through PIDs in research platforms”

EOSC Future & RDA grant project



# PID Integration into everyday sample management



- Registration, metadata editing, and publishing of IGSN IDs associated with samples that are already managed in RSpace Inventory
- **Simplifies the process for users and managers, embedding persistent identification into everyday sample management tasks**

Bacteria

SAMPLE SA232796

Info Edit Create Duplicate Move Transfer Add to Basket Export

Hide all Identifiers associated with this item.

To update any details, press Edit first.

Identifier	Type	Status	Hide
10.82762/0w9s-5w25	IGSN	Findable	^

PREVIEW PUBLISH RETRACT

Required Identifier Properties

**Creator Name**  
V P

**Creator Type**  
Personal

**Name**  
Bacteria

**Publisher**  
ResearchSpace at <https://pangolin8086.researchspace.com>

**Publication Year**  
2023

**Resource Type**  
Material Sample

**Public Page URL**  
<https://handle.stage.datacite.org/10.82762/0w9s-5w25>

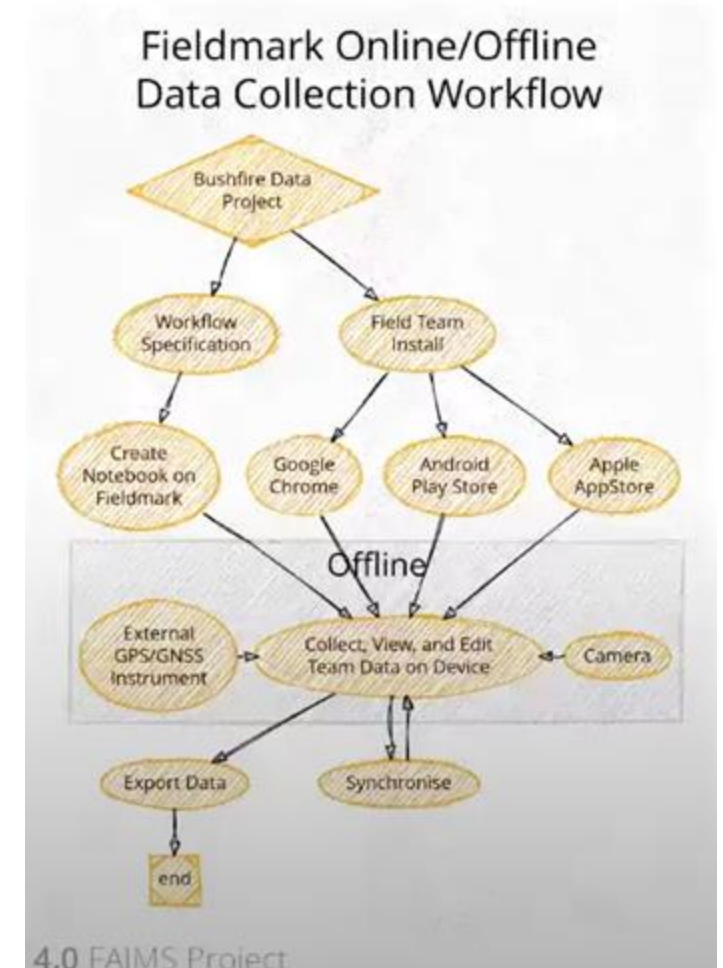
The public page URL redirects to: <https://pangolin8086.researchspace.com/public/inventory/qoaiZGLgjPKmhYxiYexi0Q>. We recommend you use the public page URL when citing this resource.

Recommended Identifier Properties

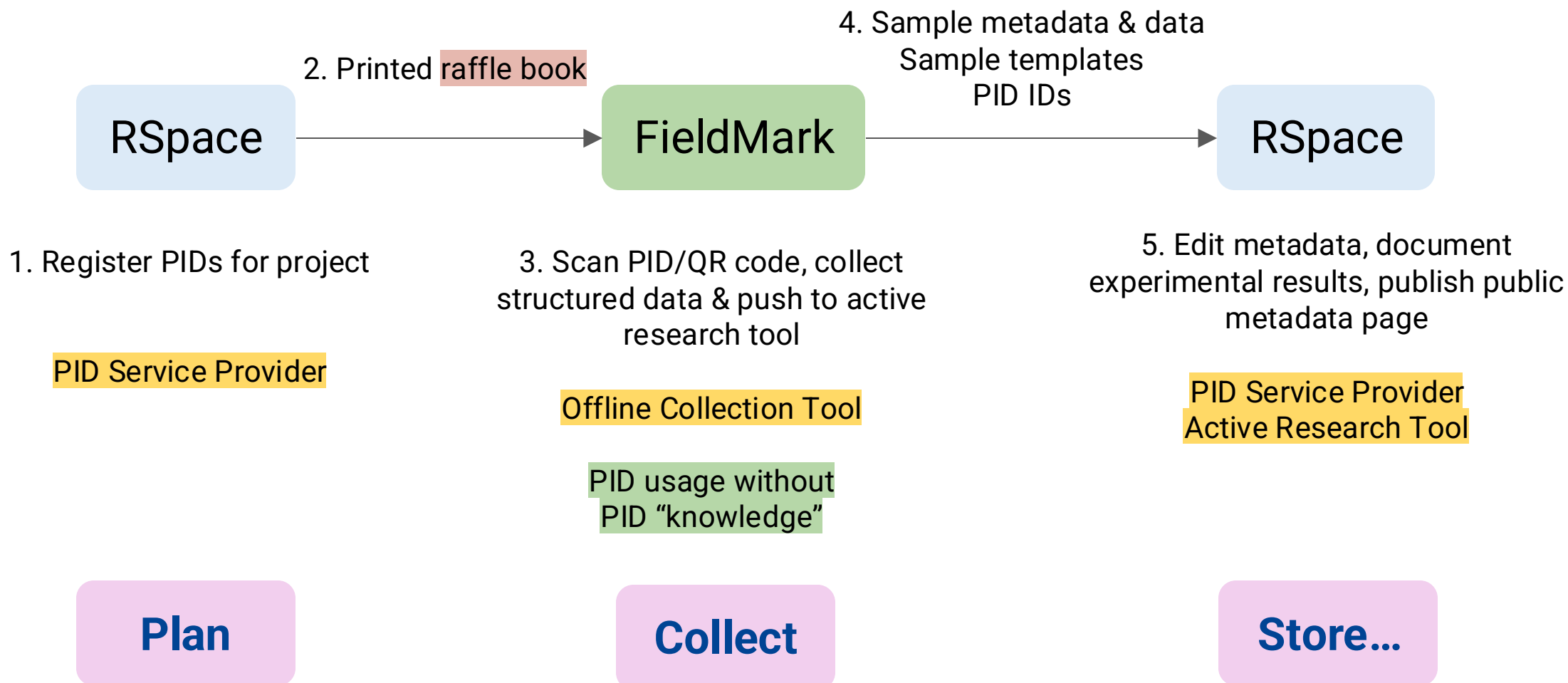
# PIDs in end-to-end sample workflows



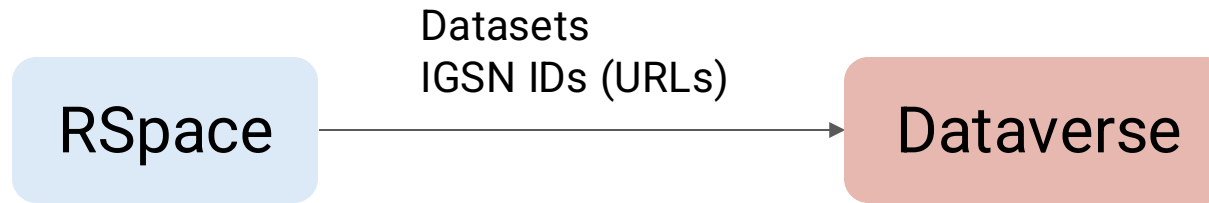
- **Fieldmark:** offline structured sample metadata collection tool
- Includes metadata that can only be obtained at place & moment of collection
- Metadata is attached to sample **from the moment of collection**, with a PID, using IGSN IDs embedded in QR codes
- Digital-first metadata can then be passed onto RSpace & then repositories
- Enabled by end-to-end tool interoperability



# "Early" PIDs for offline (meta)data collection



# Associate research deposits with sample PIDs



List of Materials (Inventory) ?

List Name ID  
List #1 3112962  
7 / 255

Description  
0 / 255

ADD ITEMS EDIT QUANTITIES MOVE ALL TO MY BENCH Tip: to edit an item click its Global ID, then the Edit button in the new browser tab.

Name	Consumed Quantity	Inventory Quantity	Location	Global ID	Owner
EnzymeAB.01	✗ 0 ml	1 ml	My Bench	SS3899504	System Admin
Bacteria_1.01	✗ 0 ml	1 ml	My Bench	SS3899503	System Admin

Citation Metadata ^

**Persistent Identifier** ? doi:10.7910/DVN/BVYRHZ

**Title** ? This is a test deposit

**Author** ? Plankyte, Vaida (The University of Edinburgh) - ORCID: 0000-0002-9561-5942

**Point of Contact** ?  
Use email button above to contact.  
Plankyte, Vaida (The University of Edinburgh)

**Description** ? testing

**Subject** ? Agricultural Sciences

**Depositor** ? Plankyte, Vaida

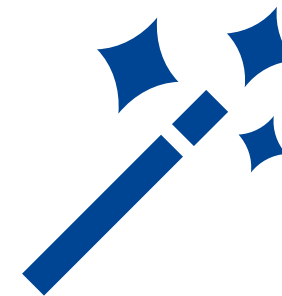
**Deposit Date** ? 2024-03-05

**Related Material** ? Bacteria\_1 <https://doi.org/10.1000/182>; EnzymeAB <https://doi.org/10.1000/183>



# Further PID considerations in RSpace

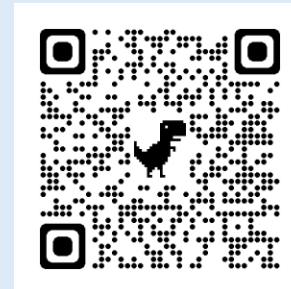
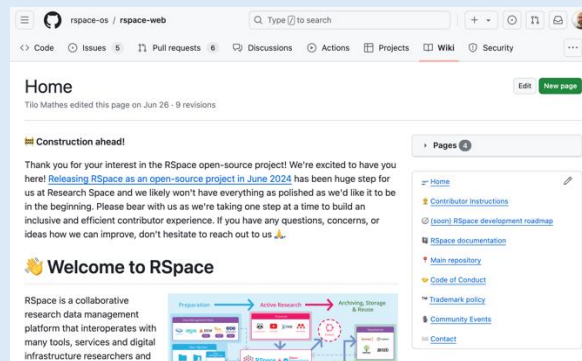
- General ePIC and/or DOI support for (published?) RSpace objects
- PIDs for RSpace (software) releases: provide production/software metadata to RSpace objects
- PIDs for RSpace instances: globally resolve “local” objects
- ...





# Thank you!

**RSpace is open-source since June 2024, licensed under AGPL 3.0**



[opensource@researchspace.com](mailto:opensource@researchspace.com)

<https://github.com/rspace-os>