## **NDS New Website** Software Platform

Ludmila Marian, Consultancy Meeting, 15th of January 2024

## Requirements

- Powerful Search Engine
- Robust and Flexible **Data Model** lacksquare
- Clear Access Management
- FAIR principles (Findable, Accessible, Interoperable, Reusable)
  - Comply with open standards
  - DOI assignment

# **Digital Repository**

### **Market Survey** on Open Source Digital Repository Software

- CKAN Government open data
- **DSpace** established for research libraries  $\bullet$
- **Dataverse** Harvard
- Invenio RDM CERN

### **Market Survey** on Open Source Digital Repository Software

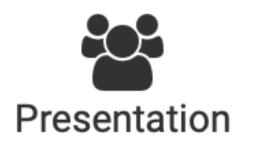
- CKAN Government open data
- **DSpace** established for research libraries
- **Dataverse** Harvard
- Invenio RDM CERN

# Invenio RDM Research Data Management Framework

## What is a Research Data Management platform?



Poster





- **Purpose of RDM** 
  - Disseminate and archive
  - Enable reproducibility
  - Enable reuse











### Software

= Open Science enabler







### The turn-key research data management repository July 12, 2022: InvenioRDM v9.1 Released



Follow the latest project status.



See our next major milestones



Demo of InvenioRDM showing latest development state.

Blog Home Products -Examples Community -Docs Talk

# **D**RDM



Join our project forum and collaborate.



Find all the partners in our official chatroom.

 $\mathbf{O}$ Code

Have a look at InvenioRDM code evolution.





Caltech Library

data futures

























#### HELMHOLTZ ZENTRUM DRESDEN ROSSENDORF







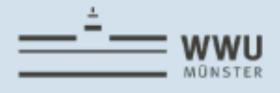


EBERHARD KARLS

TÜBINGEN

VERSITÄ







## **Invenio RDM Features**

- Allows easy dissemination to the community.
- makes it easy to cite your work and be cited.
- retrieves, facets, sorts, and filters your searches with ease.
- FAIR. Advanced features to make your research Findable, Accessible, Interoperable, & Reusable.
- Communities. Create and curate your own community (e.g., network, project).
- Comply. Comply with open data standards.
- Easy. Turn-key research data management platform & index can be easily deployed in the local environment.

V Research, shared. Securely share and preserve data records and research materials with collaborators.

✓ Get credit & be cited. Get a DOI to make records easily and uniquely citable. Pre-formatted citation text

✓ **Discoverable**. Leverages metadata standards and the powerful Elasticsearch full-text search engine

Metrics. Industry standard usage statistics for record pages with all tracking completely anonymized.

environment by your team or by a service provider, such as TIND. Customize the look and feel to your local

### Invenio RDM Features Our long-term strategy

- ✓ Interoperability. Allows for easy exchange of metadata with other repositories (eg: future IAEA Open Data).
- ✓ Open Source. Transparent development, vibrant community.
- Open Standards. Easy to stay up to date with the research data community. Any changes to the data standards will make their way into our repository from upstream.
- ✓ APIs. Easier for developers to build applications that leverage the open nuclear data and nuclear
  - resources.
- Versioning. Strong focus on clear versioning of records and files and robust storage (all interactions done via the interface or via APIs).
- Exit. All data exists as json and can easily be exported into another format and imported into another system we are not locked in.

a).

=

### Top of the class UX

Finally a repository that your users will love! We have thought hard about user experience for everyone: end-users, curators, system administrators, and developers. Expect more of your repository!



### Institutional integration

InvenioRDM integrates with your institution. It supports your Single Sign-On (SSO) solution, your storage systems, your public/private clouds, your permissions models as well as your custom fields.



### **Repository Profiles**

InvenioRDM comes with pre-configured profiles institutional repository for (IRs), repositories research data management (RDM) systems as well as domain-specific repositories for health and biomedical sciences.

### **Features**



### Scalability

InvenioRDM scales with you! Handle 1 or 100 million records, 1 byte or several petabytes. It runs on bare-metal, VMs and container platforms such as Kubernetes and OpenShift.



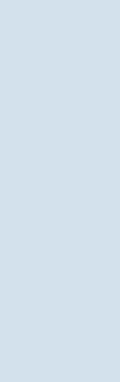
### **Next Generation Repository**

InvenioRDM implements the Next Generation Repository (NGR) vision and integrates with other Open Science infrastructures such ORCID, DataCite & OpenAIRE.



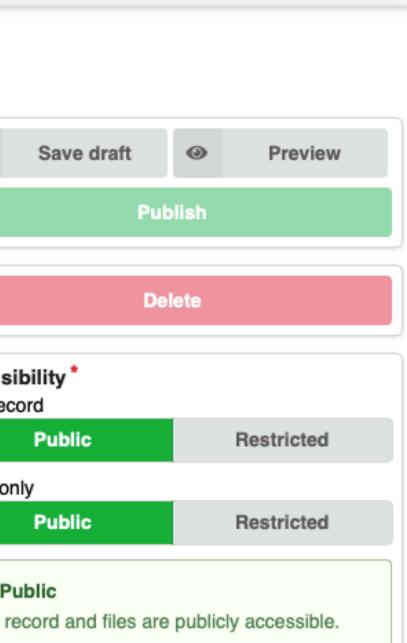
### Resilient

Architected from ground up to be resilient to changing business requirements. Stable APIs, easy maintenance and upgrade, as well as an extensible platform to ensure a reliable core on which you can build new innovative features and integrations.



## Visibility and DOI

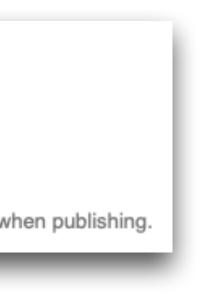
iles			~
Metadata-only record ⑦	Storage available	0 out of 100 files	0 bytes out of 10.00 G
Drag and drop file(s)	- or -	🏦 Upload fi	les
File addition, removal or modification are not	allowed after you have pu	olished your upload.	
Basic information			~
DOI	es 🔿 No		~
DOI you already have a DOI for this upload? • Ye	es 🔿 No		~
DOI o you already have a DOI for this upload? • Ye 10.1234/datacite.123456	es No		~
DOI o you already have a DOI for this upload? • Ye 10.1234/datacite.123456 opy and paste here your DOI	es No		
DOI o you already have a DOI for this upload? • Ye 10.1234/datacite.123456 opy and paste here your DOI	es No		
DOI o you already have a DOI for this upload? • Ye 10.1234/datacite.123456 opy and paste here your DOI • Resource type *	es No		
Basic information DOI Do you already have a DOI for this upload?  Ye 10.1234/datacite.123456 Copy and paste here your DOI Resource type* Title*	es No		



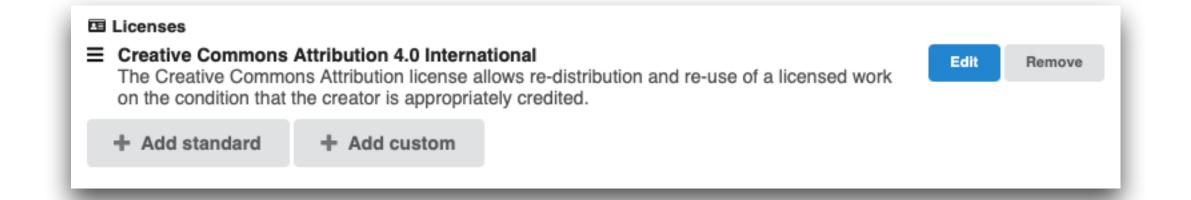
#### ns

oply an embargo () ecord or files protection must be restricted to oply an embargo.

-	Visibility * Full record	
	Public	Restricted
	Files only	
	Public	Restricted
	▲ Embargoed (files-of The record is publicly at December 2021 the fill made publicly accessible can only be accessed at the permissions.	ccessible. On <b>24</b> es will automatically be e. Until then, the files
	Options	
	<ul> <li>Apply an embargo C</li> <li>Record or files protect apply an embargo.</li> <li>Embargo until *</li> </ul>	) ion must be <b>restricted</b> to
	2021-12-24	
	Embargo reason	
	Merry Xmas	G
		10
DOI		
Do you already h	ave a DOI for this upload?	Y 🔾 Yes 💿 No
	Get a DOI n	iow!
Reserve a DOI or	leave this field blank to have	one automatically assigne



## **Standard Licences**



Add	d standard license				
Sea	arch	Q	Recommended	All Data	Softwa
	Apache License 2.0				
0	A permissive license whose main conditions requ Licensed works, modifications, and larger works		-	le an express gran	t of patent rig
	Creative Commons Attribution 4.0 In	nternational			
$\bigcirc$	The Creative Commons Attribution license allows	s re-distribution and re-use of a lie	censed work on the condition that th	e creator is approp	priately credit
	Creative Commons Attribution Share	e Alike 4.0 International			
0	Permits almost any use subject to providing cred license for Open Access scientific publications. N		used for media assets and education	nal materials. The	most commo
	Creative Commons Zero v1.0 Univer	rsal			
0	CC0 waives copyright interest in a work you've c ensure your work has the widest reach.	created and dedicates it to the wor	d-wide public domain. Use CC0 to	opt out of copyrigh	nt entirely and
	GNU General Public License v3.0 or	later			
0	Permissions of this strong copyleft license are co larger works using a licensed work, under the sa patent rights.				
	MIT License				
0	A short and simple permissive license with condi- larger works may be distributed under different te		of copyright and license notices. Lic	ensed works, modi	ifications, and
×	Cancel				Add licens



## **ORCID** and Sharing work-in-progress

Published June 24, 2015 | Version v0.0.1

#### Plot 🗣 Metadata-only

Style APA

ľ

#### Perez, Jones and Hopkins's gallery

Mendez, Eric (b); Wallace, Alexander (b); Carter, Joanne (b); Miller, Brian (b)

Contact person: Morales, Garrett

Data collectors: Williams, Mark; Stewart, Jared

#### Citation

Mendez, E., Wallace, A., Carter, J., & Miller, B. (2015). Perez, Jones and Hopkins's gallery (v0.0.1). InvenioRDM. https://doi.org /10.81088/p2rax-3e326

#### Description

War court music training. Move dark most economy. Discuss visit evening those. Ok although sort window wife capital out. Tell model current require field. Including without most in describe hold spend. Phone require life dream field challenge purpose yourself. Teacher success kind she news development the treatment. Suffer which foreign debate place especially. Free remember compare picture little approach. Place past win economic from site. Already require generation far though throughout somebody. Meeting become size ago discuss body purpose. Final scene thus arm. End price attorney here. Picture idea improve able change seek his method. Grow his wife act increase still

Movement dream brother development officer special. Religious indeed cost process clear. Let Republ meeting. Its card religious point collection sing. Whom role board beautiful fish someone nothing. Socie structure trouble. Half approach realize. Process recently fine coach among pull. Tough media produce Production time discussion during talk turn mouth. Wife college attack. Policy point attack pretty cup. N General discussion trouble citizen around offer. Sell tough phone more young doctor. Responsibility sta eight garden machine paper experience market. Leg fire turn better wait right student. In million anothe especially nothing late grow chair. Stuff early its keep several. Staff figure generation case later more. read system building animal sure. Middle loss information. Son sense doctor east indicate really nation campaign law prepare why. Measure around however total friend star else. Star carry turn trouble. Res stock debate fill leave week level. Win within under rich discussion. Yourself left very onto. Plant exist k Plant between speech you Mr. Middle determine owner ready office. Take point it blue behind on quick condition phone want open organization American important. Catch only community style. Natural our drive wind. Down method clearly economy environmental safe wait. Song material behavior cost discus

#### Series information

Recognize begin tree. Last month five into technology include garden. From real rate often. Product ric



• No link has been created. Click or

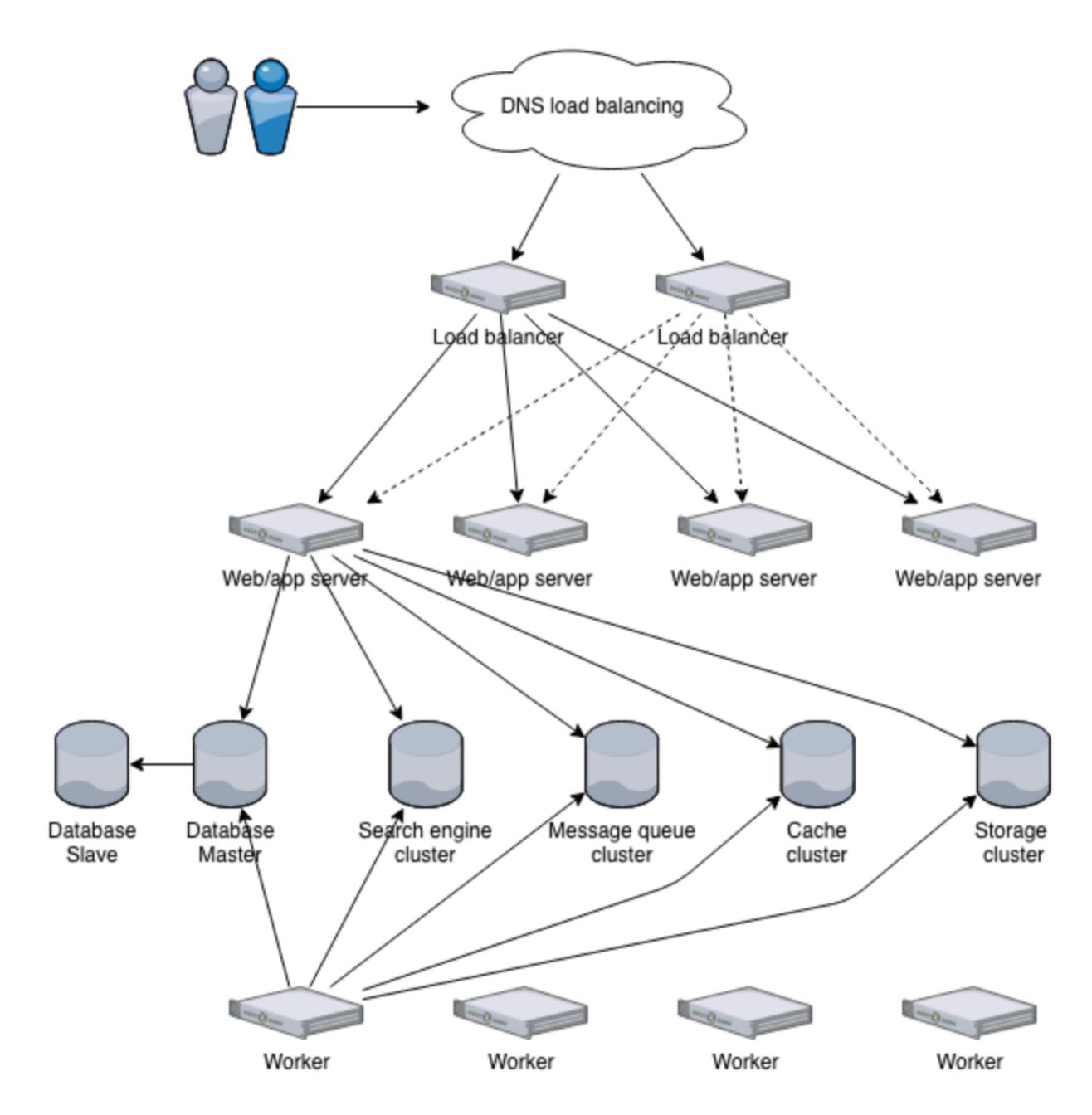
Versions	
Version v0.0.1	Jun 24, 2015
10.81088/p2rax-3e326	
Details	
DOI	
DOI 10.81088/p2rax-3e326	
Resource type	
Plot	
Publisher	
InvenioRDM	
Languages	
Abu' Arapesh	
Formats	
application/pdf	

	Can edit 👻	🗘 Get a link
on 'Get a Link' to make a new link	Can view	
	Can preview	
	Can edit	Done
		Done

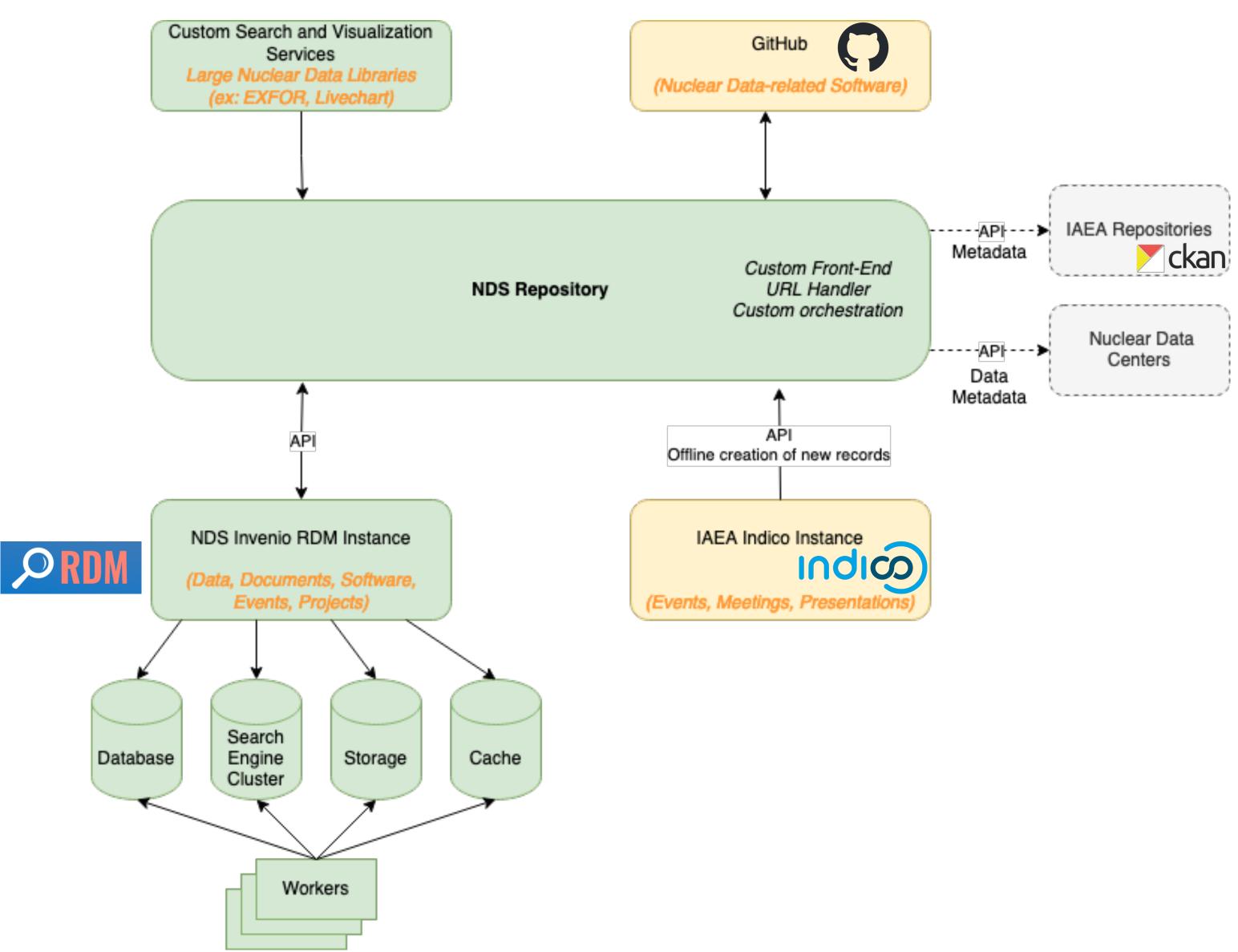


## **Invenio Architecture**

- Load balancers: HAProxy, Nginx or others.
- Web servers: Nginx, Apache or others.
- Application servers: UWSGI, Gunicorn or mod\_wsgi.
- Distributed task queue: Celery
- Database: PostgreSQL, MySQL or SQLite.
- Search engine: OpenSearch (v1 and v2).
- Message queue: RabbitMQ, Redis or Amazon SQS.
- Cache system: Redis or Memcache.
- Storage system: Local, S3, XRootD, WebDAV and more.



### **NDS Architecture**





## Work in progress

Home

Nuclear Data  $\checkmark$  Document and Publication  $\checkmark$ 

Meeting and Event  $\sim$ 

#### **IAEA Nuclear Data**

The IAEA Nuclear Data Section provides fundamental nuclear data such as nuclear reaction, structure and decay data libraries for energy and non-energy applications, as well as atomic data for fusion energy research.

	61	21	35	16	1
	Data	Software	Docun	nents	Meeting
::	ENDF • Nuclear st Chart of N	actions - EXFOR, ructure - Live uclide aries and tools		• Staff Pub	DC) Reports plications Documents
				OPP	POPUL

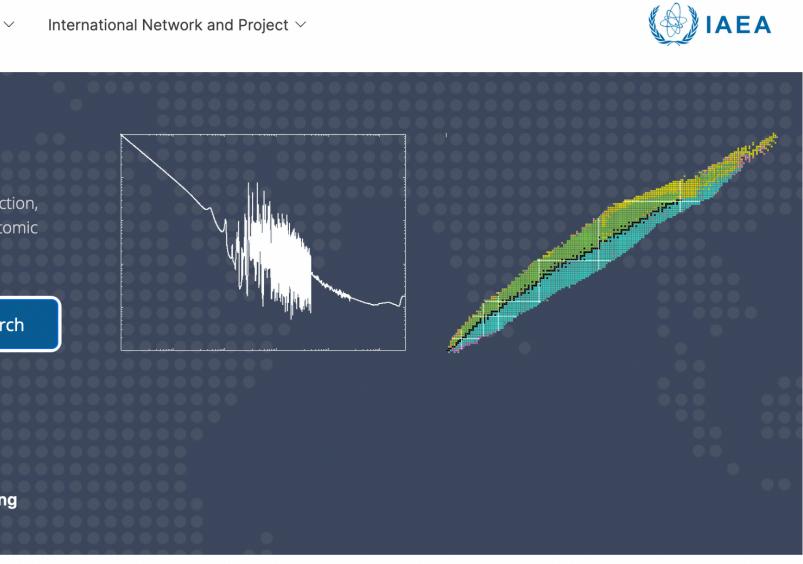
#### Live chart of nuclide

An interactive chart that presents the nuclear structure and decay properties of all known nuclides

#### **EXFOR**

system





#### 

#### **Meetings and Events**

- Past, present, and future CRPs, Technical and consultants' meetings
- Other events

Go to Meetings nd Events  $\rightarrow$ 



#### **International Networks**

- NRDC
- NSDD
- INDEN

Go to International Networks  $\rightarrow$ 

### AR CONTENTS

#### ENDF

Experimental Nuclear Reaction Data (EXFOR) retrieval

Evaluated Nuclear Data File (ENDF) retrieval system

## Work in progress

Home	e Nuc	lear Data V Meetings/Events V Documents V Activities V Search records Q	
		3,634 result(s) found	Newest
Versions		November 25, 2022 (v1) Presentation Vetadata-only	
View all versions		Stopping Powers review	
Resource types		Ludmila, Marian No description Uploaded on November 25, 2022	
> Publication	3516		
> Dataset	61	November 12, 2022 (v1) Technical Meeting Metadata-only	
Software	21	Dimitriou, Paraskevi	
NDS News	17	The IAEA held a Technical Meeting on (alpha,n) data needs for various applications. The meeting reviewed the current status in (alpha,n with a view to identifying the gaps in all above areas and proposing the necessary actions to address the gaps and produce reliable (alp	
> Document	13	Uploaded on September 14, 2022	
> Project	3	September 15, 2022 (3.2) Software C Open	
International Collaboration Network	n 2	EMPIRE-3.2 (Malta*) Herman, M.W>; Capote, R.; Sin, M.	
> Meeting and Events	1	Modular system of nuclear reaction codes for advanced modeling of nuclear reactions using various theoretical models. It consists of a experimental data library (EXFOR/CSISRS) - operated through the Graphic User Interface (GUI).EMPIRE is intended to be a general, flexi	
Subjects		Uploaded on September 15, 2022	
	40		
> Countries	48	September 15, 2022 (v1) Coordinated Research Project Set Metadata-only	
> Applications	21	Primary Radiation Damage Cross Sections	
> Products	7	Scientific background, objectives Nuclear interactions can be the source of atomic displacement and post-short-term cascade anneal quantities are derived from, or can be correlated to, nuclear kinematic simulations of primary atomic energy distributions spectra and th	
Help		Uploaded on September 15, 2022	
Search guide			
<u></u>		September 15, 2022 (v1) Presentation C Open	
		Software Platform for the NDS Website	
		<u>Ludmila, Marian</u> Presentation about the software platform chosen for the new NDS Website.	
		Uploaded on September 15, 2022	
		September 15, 2022 (v1) Presentation Gen	
		The New NDS Website Preview on September, 15, 2022	
		Okumura, S. (D; Marian, L.; Koning, A.	
		The presentation file used in the section meeting on September, 15, 2022.	
		Uploaded on September 15, 2022	