

Digital Persistent Identifiers (DPIs)



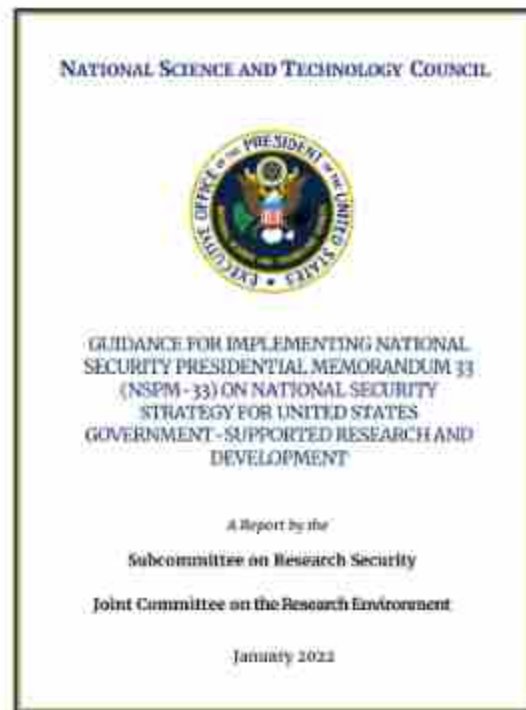
Northeastern University
Research Enterprise Services

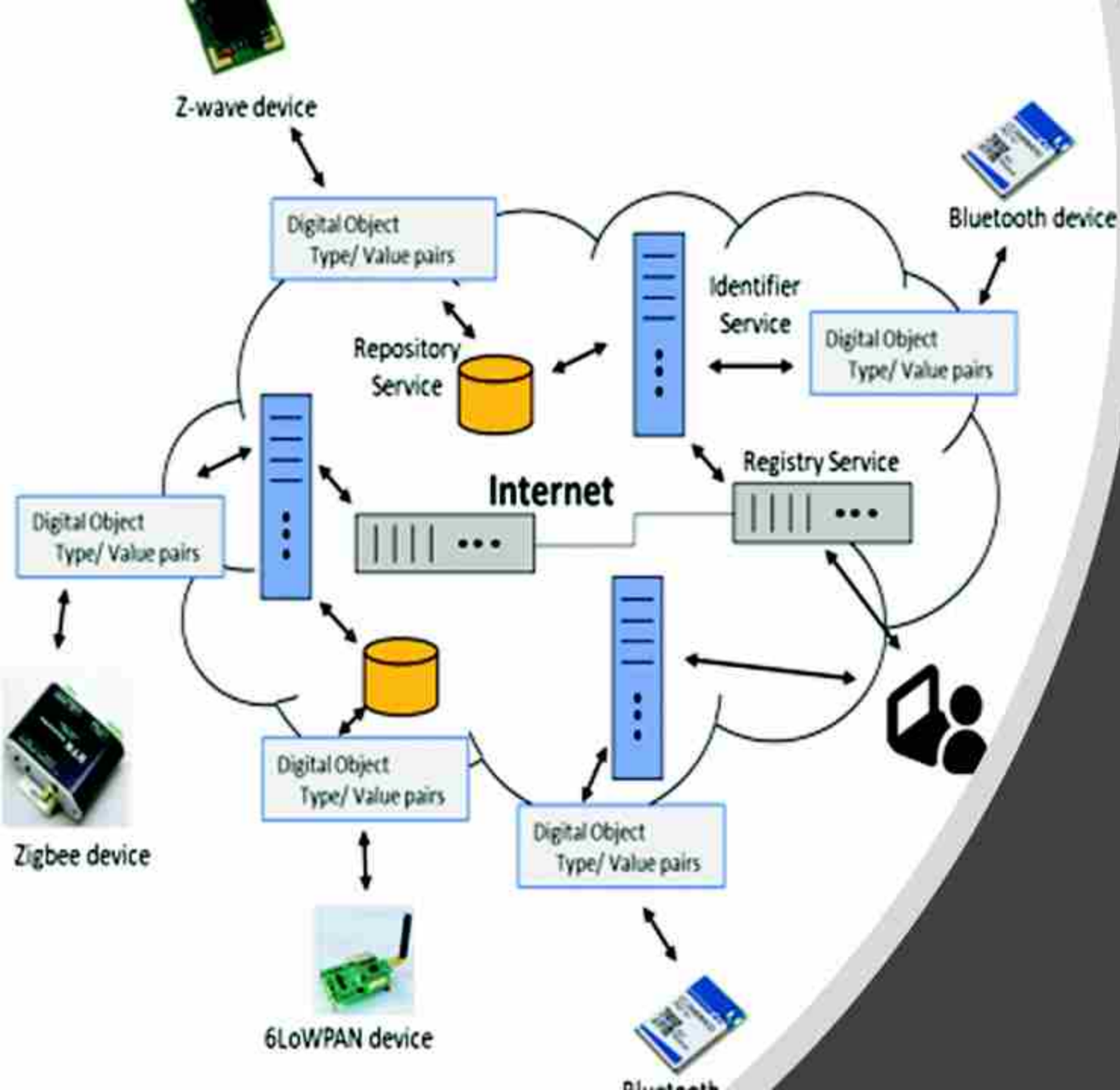


Why are we
talking about
DPIs?

NSPM-33

- *"Provide guidance to Federal departments and agencies regarding their implementation of National Security Presidential Memorandum 33 on National Security Strategy for US Government-Supported Research and Development"*.
- Guidance requires a certification from research institutions awarded more than \$50 million per year total in Federal research funding confirming they have implemented a research security program meeting the requirements.
- Guidance requires within 1 year of the date of the memorandum, *"funding agencies shall establish policies regarding requirements for individual researchers supported by or working on any Federal research grant to be registered with a service that provides a digital persistent identifier for that individual"*.
- NSPM-33 gives DPs implementation guidance stating that DPs should be integrated wherever possible.

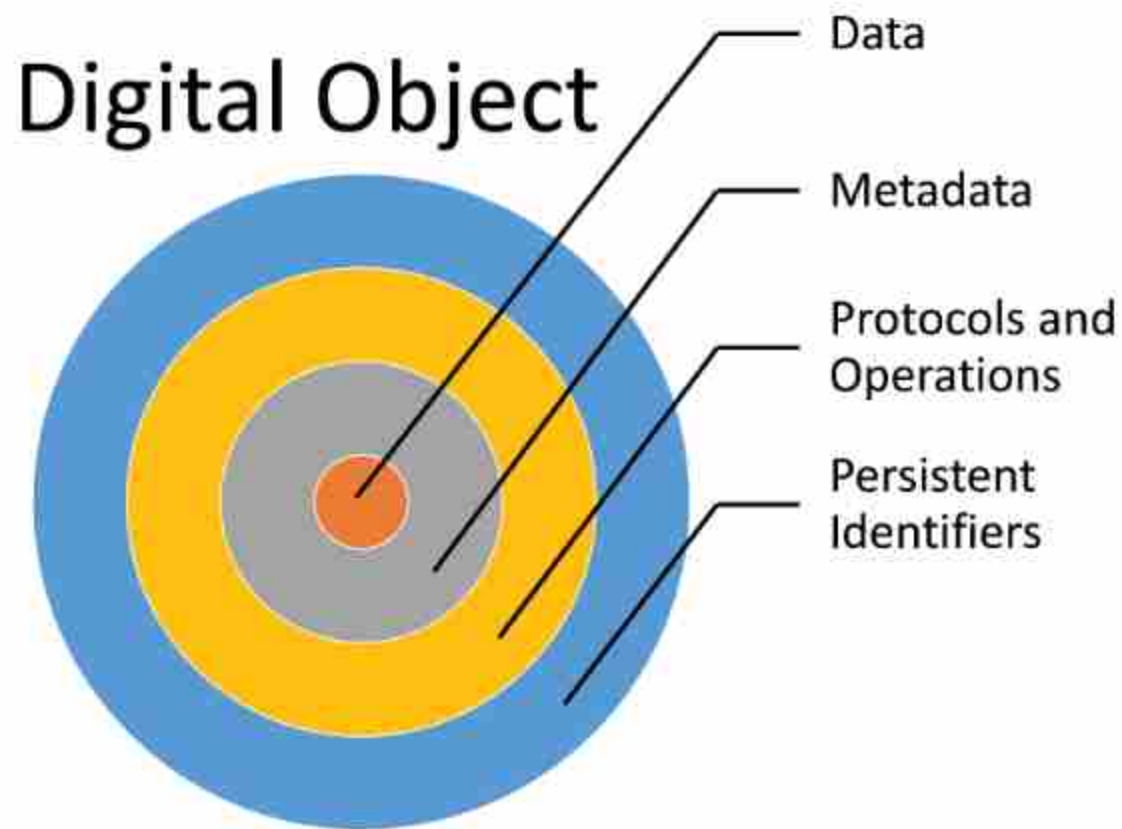




Understanding the Digital Object Architecture

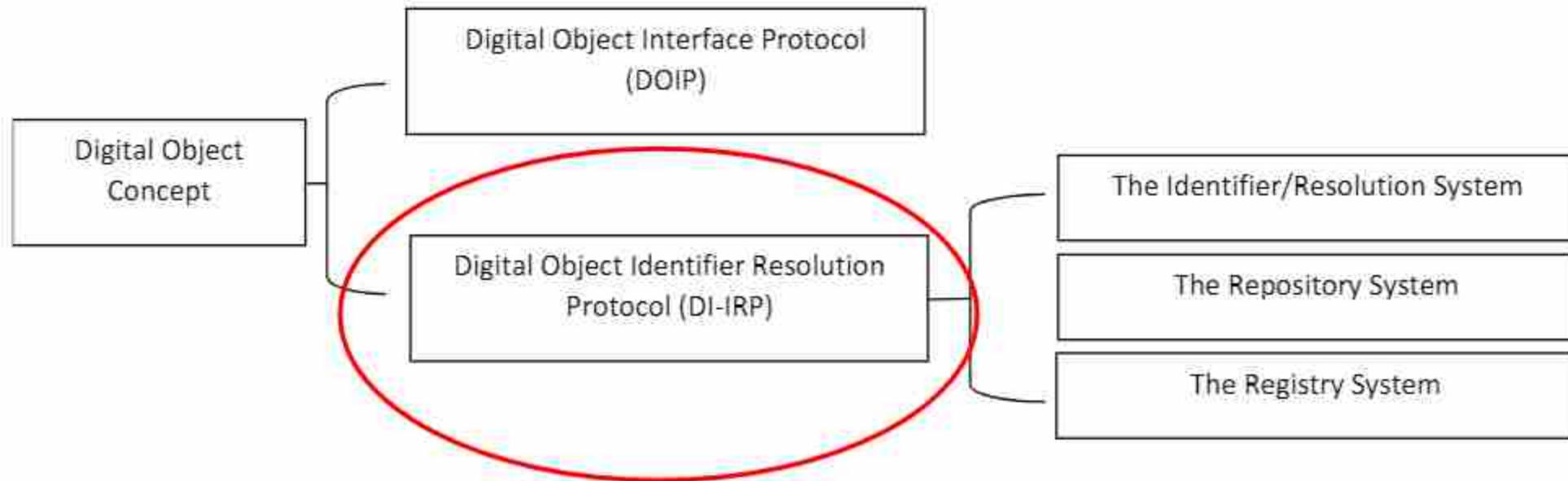
Digital Object Architecture

- General architecture for distributed information storage, location and a retrieval system running over the internet
 - Data: collection of images, string of words, set of facts
 - Metadata: provides meaningful information about the data
 - Protocols: instructions on how to retrieve the data
 - Identifiers: how the data is identified
- DOA supports [FAIR Data Principles](#)
 - Identifier must be globally unique: unable to be reused/reassigned to a different individual
 - Identifier must be persistent: registry services prevent links from becoming invalid



Digital Object Concept

- A digital object is a sequence of bits (or a set) incorporating a work or portion of a work or other information in which a party has rights or interests (i.e. text file)
- Digital objects are vulnerable to damage - become physically damaged through degradation over time (i.e. USBs), unavailable through loss of access (i.e. Cloud service closes), or software/hardware obsolescence (i.e. Floppy drives).



Three Core Components

1. The Identifier System



- Allotment of unique identifiers to information in digital form structured as digital objects

2. The Repository System



- The repository system manages digital objects including the provision of access to such objects based on the use of identifiers, and with integrated security.

3. The Registry System



- The registry system stores metadata about digital objects rather than the digital information itself.
- Typically stores metadata of digital objects that are managed by one or more repository systems.



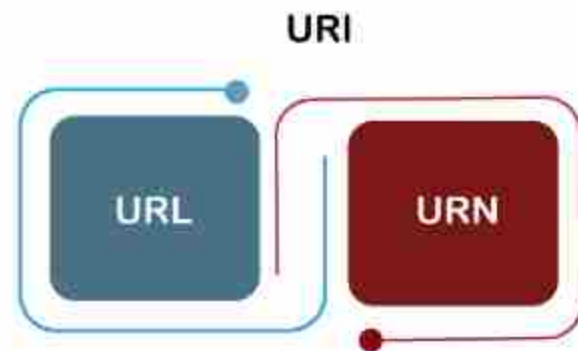
ORCID

Connecting Research
and Researchers

The Identifier System

What is a Digital Persistent Identifier (DPI)?

- A DPI is a long-lasting digital reference to an object, contributor, or organization
- A code which remains constant to the digital object it is assigned to for identification purposes, regardless of changes to its location on the internet



ARK Alliance

PURL



ORCID

Connecting Research
and Researchers

Benefits of Digital Persistent Identifiers (DPIs)

- Help to establish the authenticity of a resource
- Provides access to a resource even if its location changes (link stops working)
- Bypasses problems caused by the impermanent nature of URLs
- Allows interoperability between collections
- DPIs are widely established/widely deployed
- Will help mitigate issues researchers currently face when distinguishing their research activities from those of other with similar names
 - DPIs will allow researchers to uniquely connect their identity to research objects such as datasets, equipment, articles, media stories, citations, experiments, and patents.
 - Save researchers time from re-entering the same personal data repeatedly

DOI vs. DPI

DOI – link to academic products (Digital Object Identifier)	DPI – link to PI's academic profile (Digital Persistent Identifier)
<ul style="list-style-type: none">▪ "Digital identifier of an object" - can be assigned to any digital object	<ul style="list-style-type: none">▪ Connects researcher to their product. A profile to link PI to their products.
<ul style="list-style-type: none">▪ DataCite: Provides digital object identifiers (DOIs) for research data, and scholarly and technical publications. 	<ul style="list-style-type: none">▪ ORCID iD: Provides <i>researchers</i> with a DPI (ORCID iD), that they own and control, which distinguishes individuals.▪ Professional information can be connected and shared with other systems, ensuring recognition for all research contributions. 

Why use ORCID?

- Meets the criteria as a DPI as listed in the NSPM-33 Guidance
- Provides unique IDs that distinguish researchers from one another regardless of their name
- Allows researchers to create a single record that represents their CV
- Provides a workflow to discourage multiple records for a single person and the ability to consolidate duplicate IDs
- Reduces administrative burden on researchers by enabling the transfer of authorized data between systems
- Assigns IDs to researchers at no charge
- Allows the researcher to control access to the information in their ORCID profile; they can determine what information is displayed publicly, what is shared with trusted partners, and who those trusted partners are
- Is easily integrated with NIH & NSF's digital CV system "[SciENcv](#)"

SciENCv System

Create New Profile

You have 3 options for creating a new profile in SciENCv:

From scratch From an external source From an existing profile

Name: 
Enter a name to help you to identify this profile

Type of profile: NIH Biosketch
Additional profile types will be added later this year


External source: 
Your ORCID account is linked to SciENCv 

Sharing: Public Private
You can change the shared settings for this profile at any time

From an external source:



Some portions are auto-populated with data from an external profile

		NIH Biosketch
1.	Bibliography	Personal Statement
2.	Employment	Positions and Honors
3.	Education	Education/Training
4.	Works	Citations & Contribution to Science
5.	Funding	Additional Information: Research Support and Scholastic Performance

1. Researchers can import data from their ORCID profiles into SciENCv

2. SciENCv maps the ORCID profile fields into the relevant biosketch format

The logo for ORCID, with 'ORCID' in a sans-serif font. The letters 'ORCI' are grey, and the letters 'd' and 'ID' are a vibrant green. The 'd' is lowercase, while 'ORCI' and 'ID' are uppercase.

ORCID

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The Repository
System

ORCID Repository System

- ORCID can be used in repository systems to clearly link authors (and their name variants) with their research work, improving search and retrieval to support networking and collaboration
- ORCID API allows repository systems to exchange data with the ORCID Registry to populate local author profiles
- ORCID records can also be updated with publication information each time a repository deposit is made

ORCID API – Public vs. Member

- Public API – allows organizations that are not ORCID members to connect their systems
- Member API – facilitates registration and information exchange with ORCID records

ORCID Public API	ORCID Member API
Sign into system with ORCID	Sign into system with ORCID
Get a user's verified ORCID iD	Get a user's verified ORCID iD
Retrieve public data from a user's ORCID record	Retrieve public data from a user's ORCID record
Search public ORCID registry data	Search public ORCID registry data
	Access trusted data
	Write data to ORCID records
	Synchronize ORCID with institution's system

How does the Repository work?

- The repository collects the researchers authenticated ORCID iD and requests permission to interact with their record, storing that permission
 - This allows the administrators to request authenticated ORCID iDs and ORCID record update permissions from authors and co-authors, in cases where iDs are missing/have not been authenticated in the metadata received
- Once the researcher has connected their ORCID iD to the institutions system, their iD will be displayed on their profile (formatted as a hyperlinked URI) within the institutions system so that they know they have successfully connected and asserted their identity.
- With the researcher's permission:
 - Publications on the researcher's ORCID record can be added to the institution's repository
 - Researcher's ORCID record can be updated with the publications that are available within the repository

Example

- This is an example of a work added by Murdoch University via their EPrints integration repository system

An interactive planning model for sustainable urban water and energy supply

Applied Energy

2019 | journal-article

SOURCE-WORK-ID: 42632

URI: <https://researchrepository.murdoch.edu.au/id/eprint/42632/>

DOI: [10.1016/j.apenergy.2018.10.128](https://doi.org/10.1016/j.apenergy.2018.10.128)

Source: Murdoch University EPrints

★ Preferred source

ORCID

Connecting Research
and Researchers

The Registry
System

ORCID Registry System

- ORCID provides a registry of unique identifiers for researchers and scholars that is open, non-proprietary, transparent, and mobile.
- ORCID invites all researchers to participate without entry fees or maintenance costs.
- Researchers can sign in and maintain their record, including adding, updating, and deleting items and setting their privacy levels
- Researchers can grant ORCID member integrations permissions to read trusted data and/or update their record as part of a member workflow. Previously granted permissions can be removed at any time.

Add a trusted individual to ORCID account

- ORCID makes it easy to give a Research Administrator access and permissions to update and manage an ORCID profile
- Researchers should **NOT** give their Research Administrator their ORCID account credentials (username and/or password)
- Instead, researchers should visit the following link to learn how to add a trusted individual to your account: [Trusted Parties](#)
- Trusted individuals, also known as Account Delegates, are other ORCID iD holders to whom the researcher has granted permission to update their ORCID record.
- Access can be granted or revoked at any time.

Increase trustworthiness of ORCID records

- Member universities can increase the trustworthiness of ORCID records by writing validating data to researcher's records (with their permission)
- University is a "Trusted Organization"

Employment (3)	
NYU School of Medicine: New York, NY, US 2009-07-01 to present Clinical Assistant Professor of Dermatology (Dermatology) Employment Source: New York University	NYU Langone Medical Center: NY, NY, US 2007-11 to 2012-04 Assistant Nurse Manager (Women's & Childrens) Employment Source: Gladys Vallespir Ellett
Education and qualifications (1)	
University of Georgia: Athens, GA, US 2021-08 to present Graduate Student Education Source: University of Georgia - Affiliation Manager via ORCID Member Portal	University of Washington: Seattle, WA, US 2011 PhD (Political Science) Education Source: Heather Pool

R
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P

Recap: DPIs

Digital Persistent Identifier Recap

WHAT



- A DPI is a long-lasting digital reference to an object, contributor, or organization
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WHERE



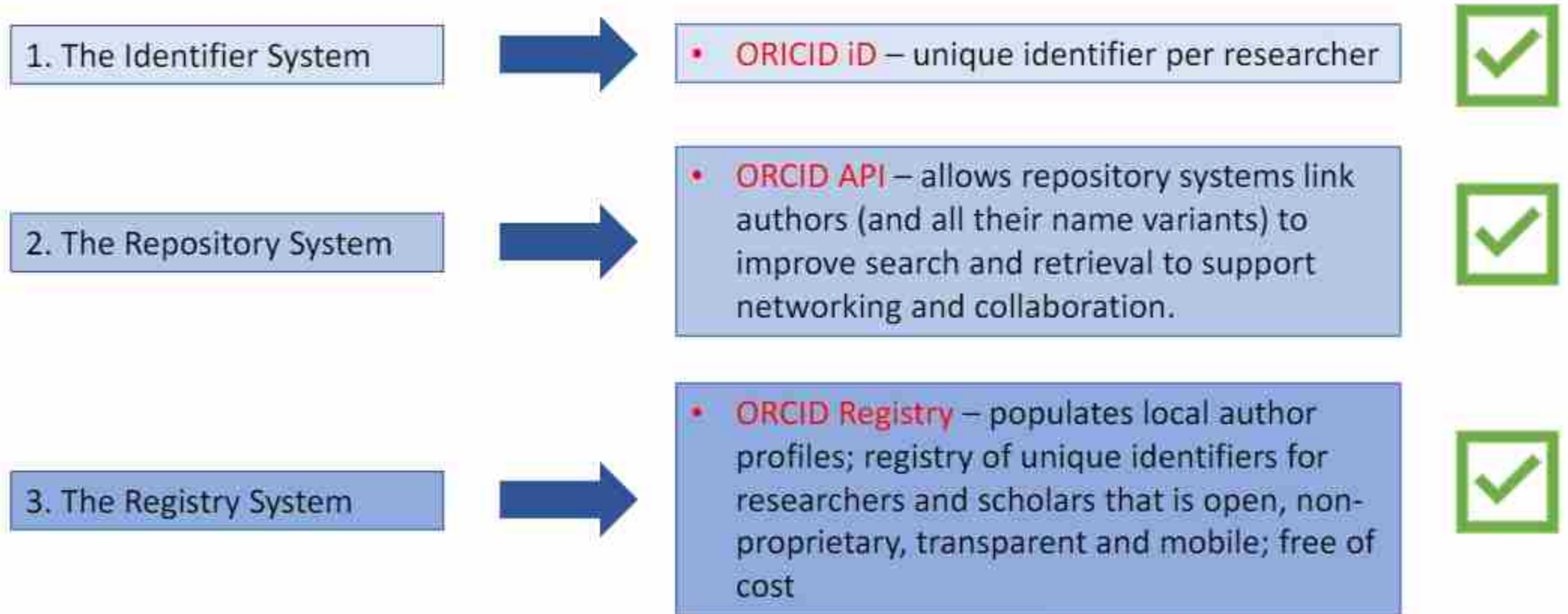
- **ORCID:** 1. The Identifier, 2. The Repository and 3. The Registry

WHY



- Researchers can connect their identity to research objects such as datasets, equipment, articles, citations, experiments, and patents.
- Give the researcher control access to the information in their ORCID profile; publicly displayed information; what information is shared with trusted partners, and who those trusted partners are; ability to give/revoke trusted access

Three Core Components





Questions

Contact Us

NU-RES Research Compliance

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