SciENcv and the Research Impact Infrastructure

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SciENcv = Science Experts Network Curriculum Vitae

Vision- *Let investigators harvest their data from multiple systems to support funding applications, reporting and collaboration with less burden and complexity*

Goals

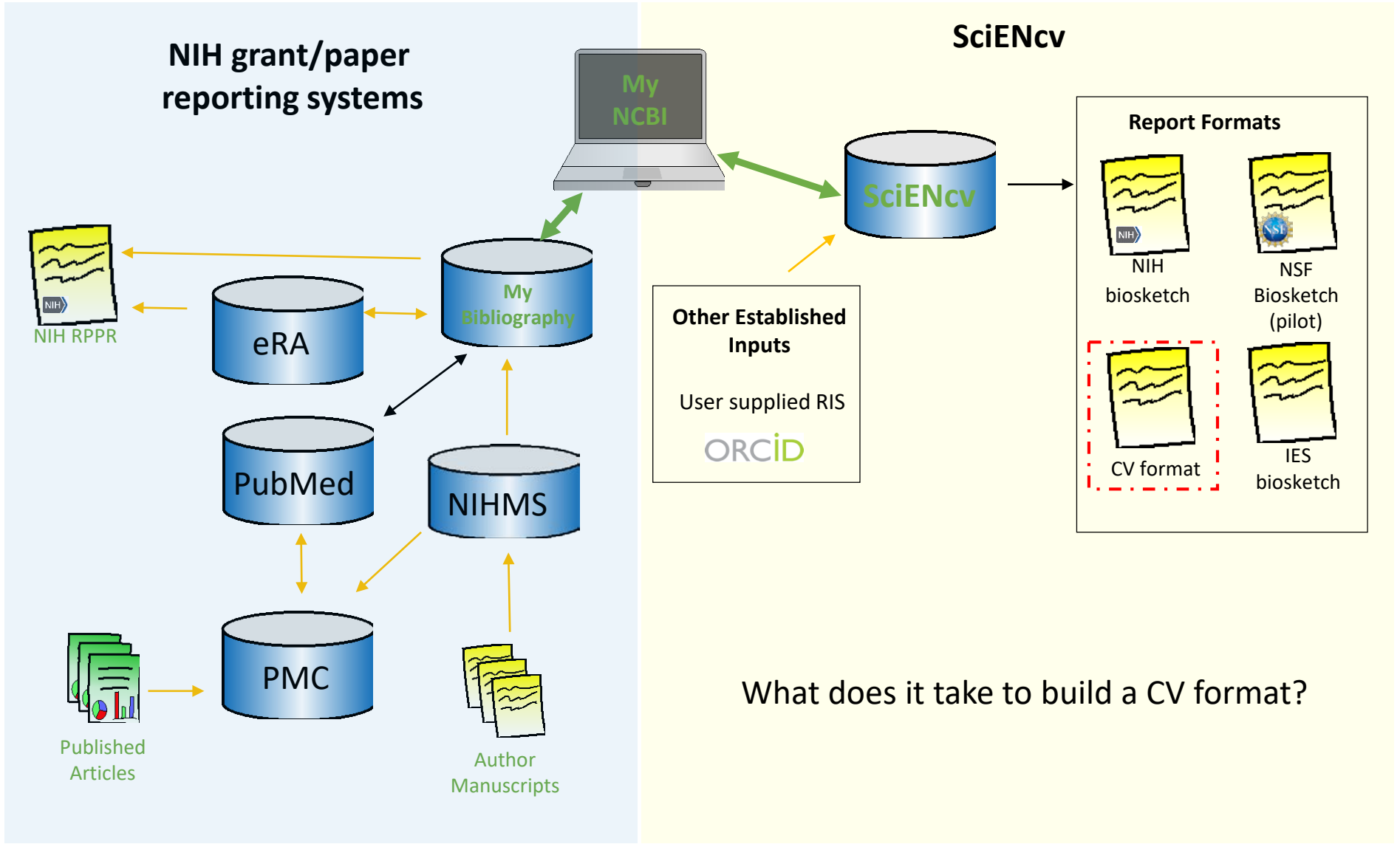
- **Reduce burden** of applying for federal funds and maintaining federal profiles
- **Track impact** of federal investments in science and scientist careers through scientist-curated data
- **Support collaboration and networking services** to find reviewers, collaborators, mentors, etc.

Products to date

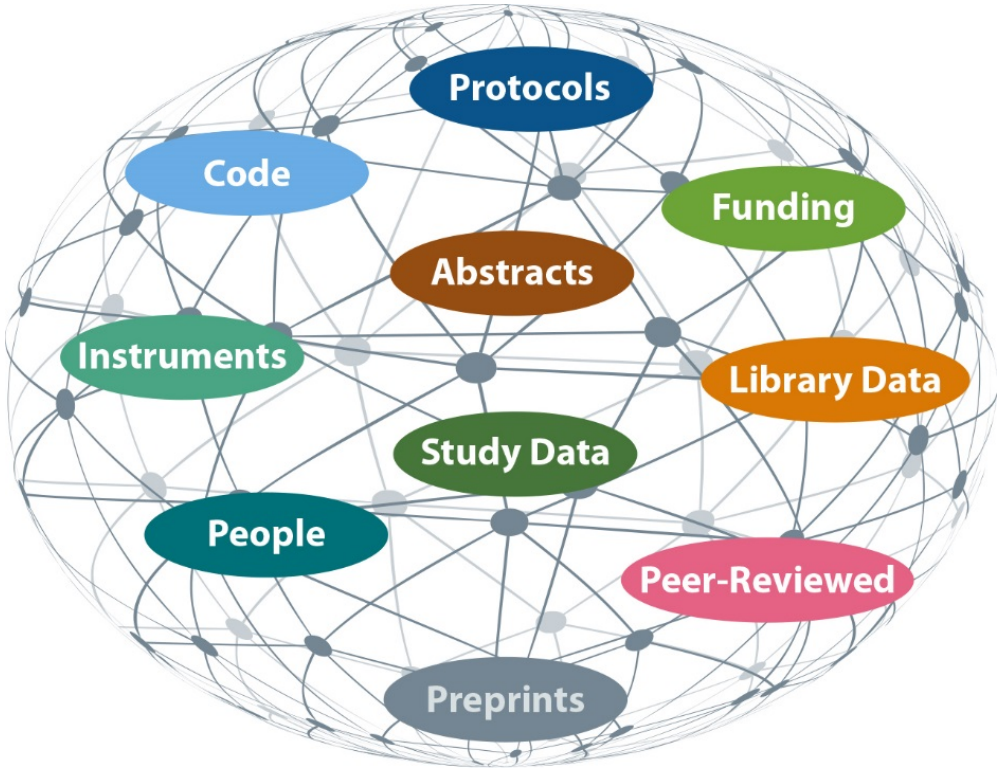
- NIH biosketches, NSF biosketch, Ed IES biosketch
- Embedded XML
- Integration with ORCID, PubMed and eRA
- Bulk upload of citations from reference manager software
- Internal refinements: user testing, adopting agile software principles

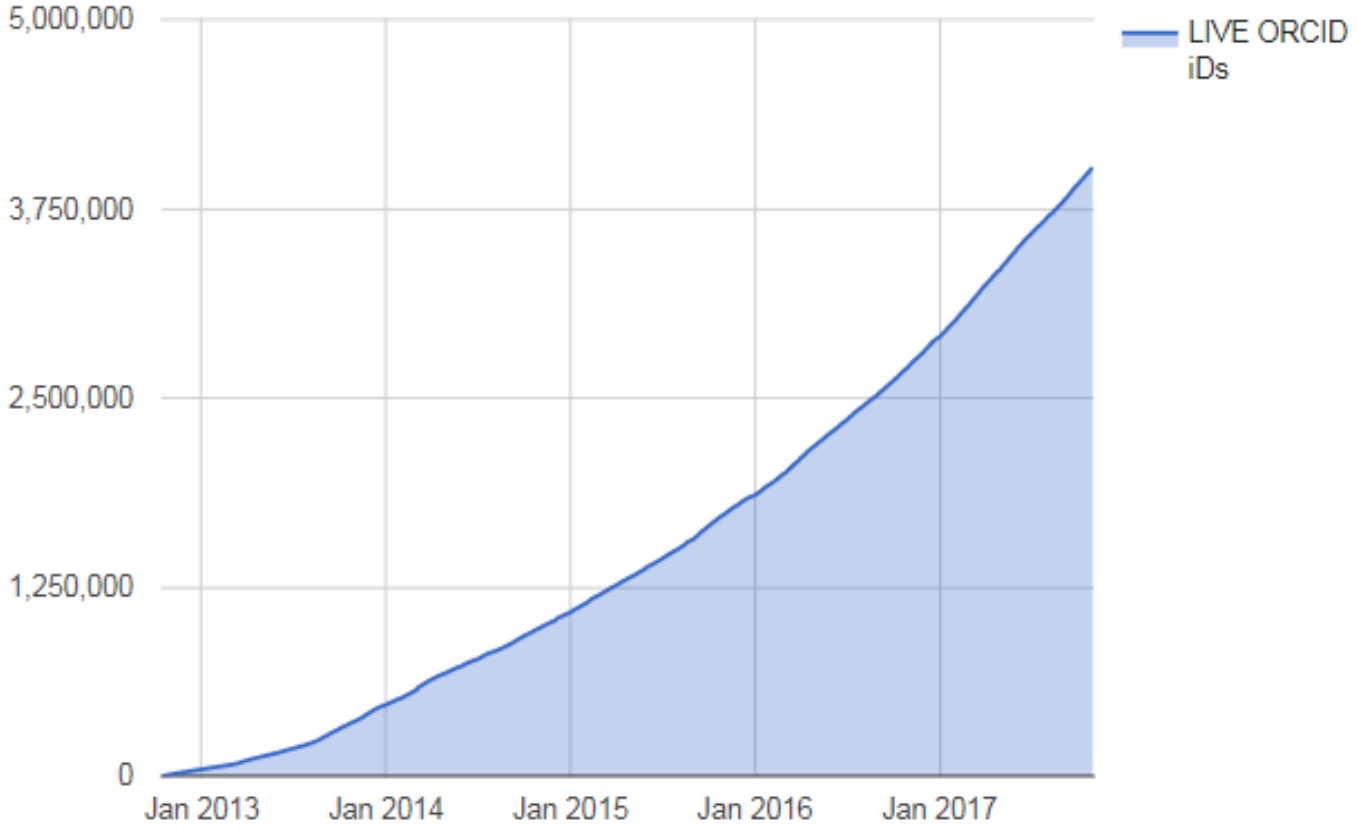
SciENcv = Science Experts Network Curriculum Vitae

Leveraging existing data to support applications, reporting and collaboration

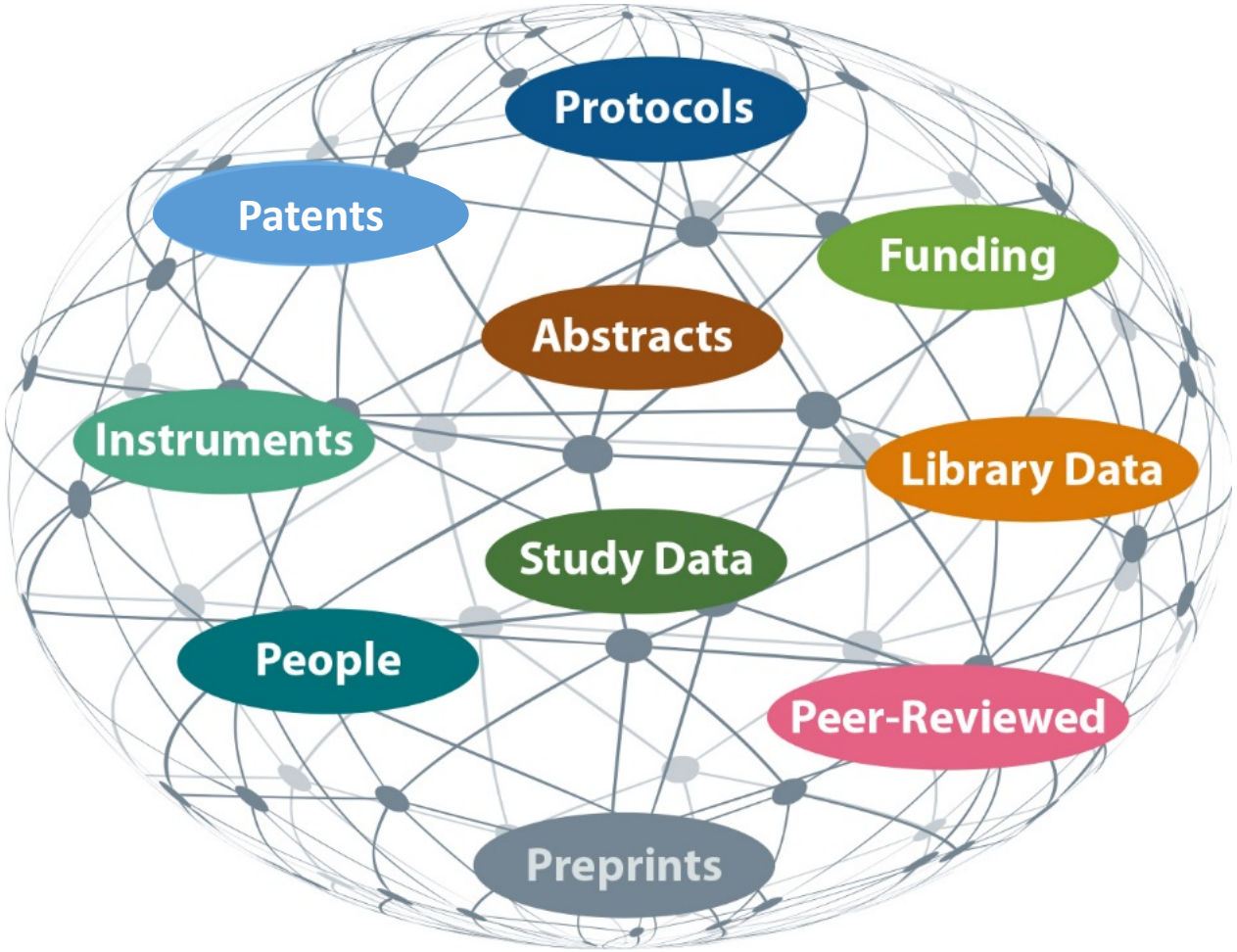


Creating a CV format: Data scope and user scale





Create a comprehensive research impact infrastructure with unique identifiers



Link

- Products (RRID, DOI, ORCID)
- Funding (DOIs?)
- People (ORCID)
- Institutions (?)

Enable

- Burden reduction
- Impact analysis
- Metrics
- Innovation and economic growth

Building an Open Profile System and enhanced impact infrastructure

Goals

- Reduce researcher burden
- Maintain researcher control and privacy
- Support collaboration and networking services
- Track funder impact
- Encourage development of better productivity measures and incentives

Pursued through public-private partnerships

DOIs for funding (grants, contracts, etc)

Utilize the publications tracking infrastructure to track grants

- Better tracking of people across their careers and funding agencies
- More accurate identification of research products
- More robust data to identify potential reviewers and assess conflicts of interest
- Validation for grant /product associations

As an overlay, a universal funding number system for all funding agencies

- Provide a ‘common denominator’ funding identifier format to harmonize NIH’s grants system and contract system, and harmonize with other funders
- An inexpensive way for funding agencies to develop unique identifiers for their funding. Requires permanent location for funding information

ORBIT: ORCID Reducing Burden and Improving Transparency

ORCID will enhance their data model and 3rd party service integrations to:

- broaden connections to research and career data usually reported on CVs
- link researchers to funding and professional activities with verified and structured data
- serve as an open hub for other systems
- will also explore institutional identifiers

Goals

- **Reduce researcher burden** of applying for funds and maintaining multiple profiles
- **Track impact** of research and professional development through transparently-curated open data
- **Support collaboration and networking services** to build efficient and equitable markets for reviewers, collaborators, mentors, etc.
- **Maintain researcher control** of their own data and how it is used across platforms
- **Encourage development of better productivity measures and incentives**

Use Case: Better Measures

ORBIT aggregates by person…

- Products (DOIs, Etc)
- Funding (DOIs?)
- Institutions (institutional identifiers?)

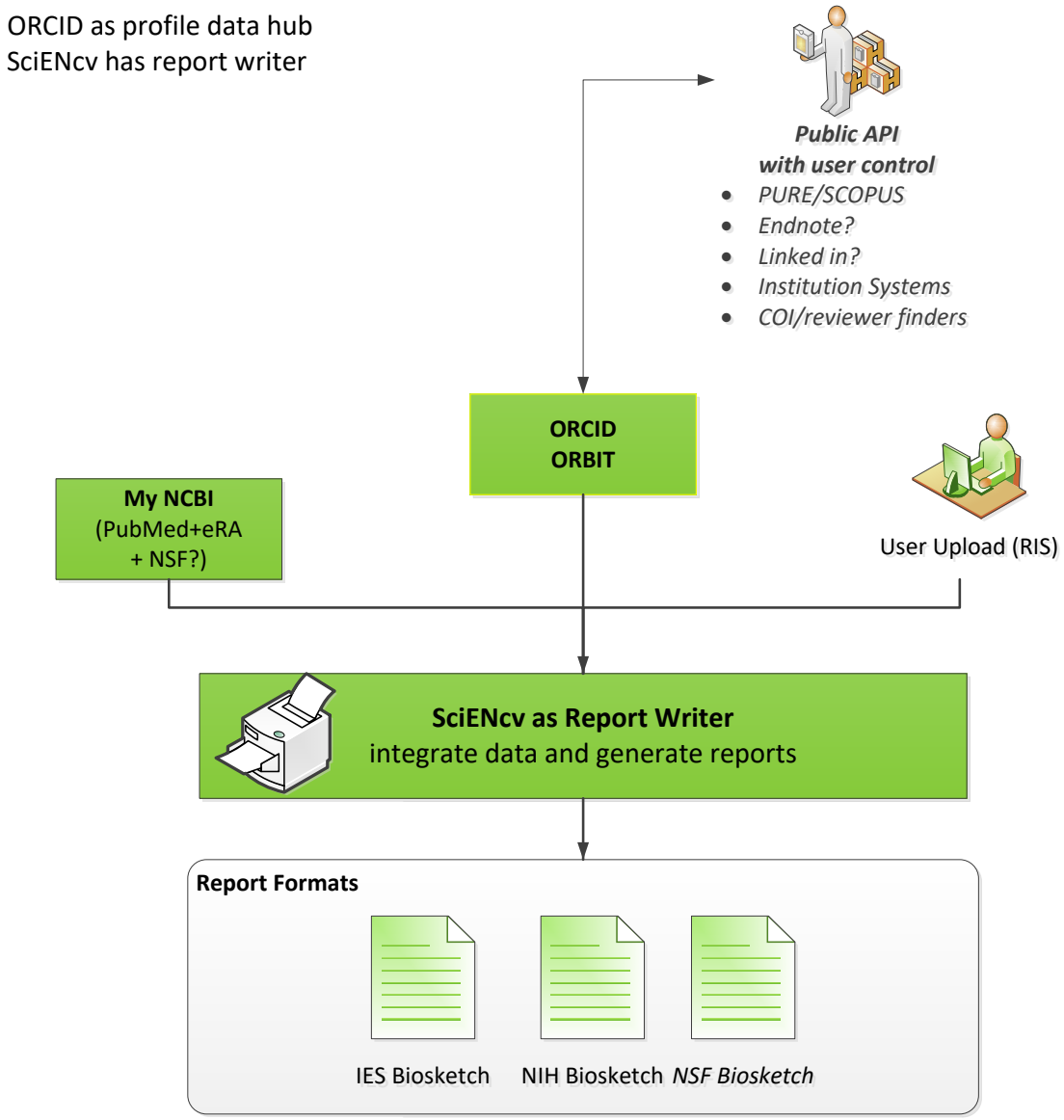
- **Product level metrics can be retained in metadata**
  - Relative citation ratio (https://www.ncbi.nlm.nih.gov/pubmed/27599104)
  - Openness? (licenses?)
  - Rigor? (badges?)

Product level metrics can aggregate to…

- Person level measures
- Award level measures
- Funding initiative level measures
- Institution level measures

Use Case: Application Forms

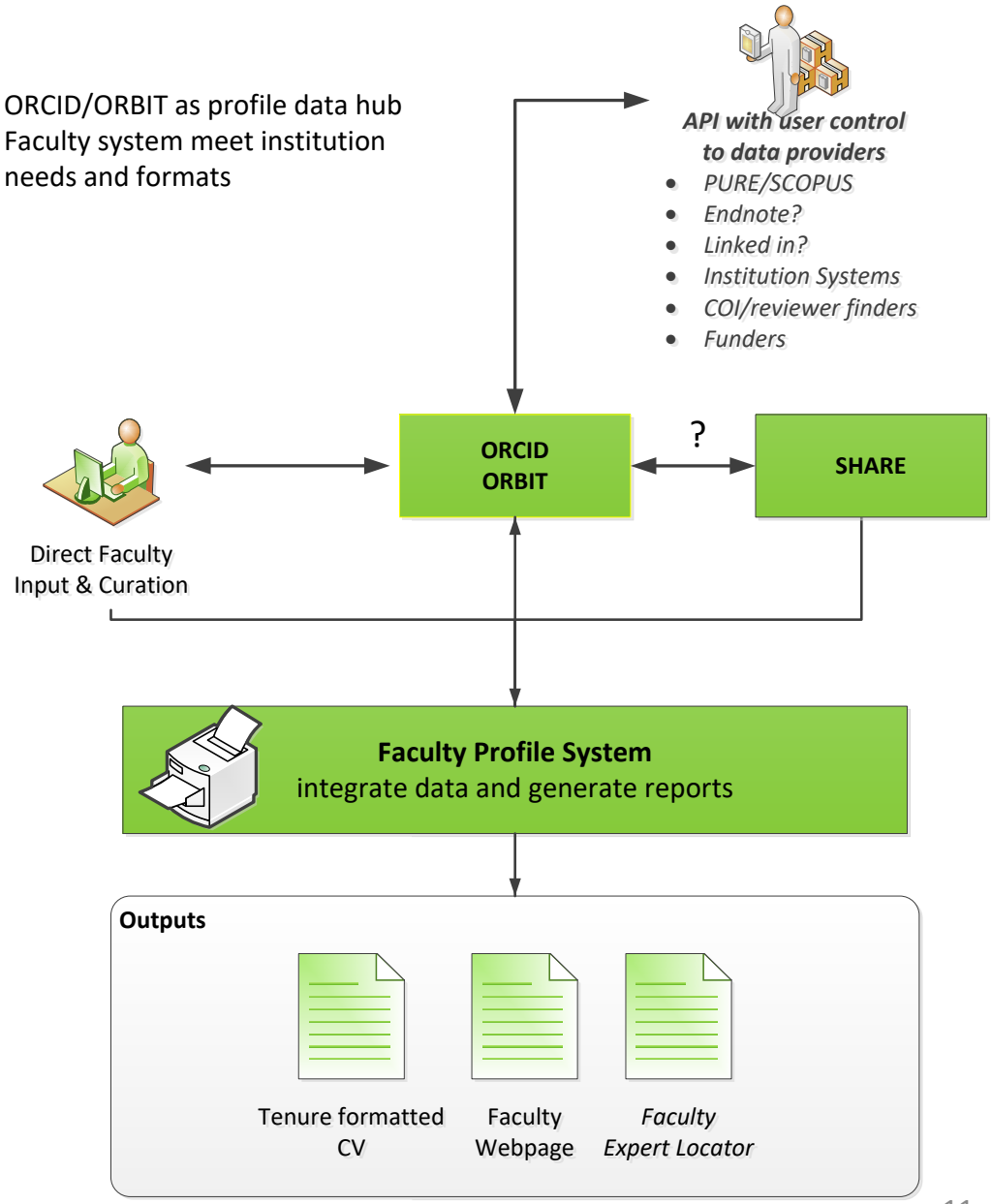
- ORCID/ORBIT data hub
- SciENcv writes creates biosketches for NIH, NSF, ED
- User approval for data linkage
- Reduced burden, validation, structured data
- Scaling: eRA as 1/10th users of ORCID



Use case: Better university data

- ORCID/ORBIT integrates data streams for linked accounts
- Users can manage their data in the system they prefer

What role can your faculty profile system play in the broader impact infrastructure?



ORCID integration with NIH systems

ORCID provides investigators with persistent digital identifiers and helps them track their research products

Phase 1: integration with SciENcv

- Link to ORCID in SciENcv and download ORCID citations into biosketches

Phase 2 (current): Allow ORCIDs in eRA profiles

- Facilitate data exchange, funding/ORCID linkages

Phase 3 (future): Expand ORCID data model and integration with eRA

- Use ORCID data to automate other forms like Other Support, RPPR?
- Upload NIH data (funding, products, profile data) into ORCID?
- Use ORCID as a hub and interchange for all profile data, reducing burden for federal and private profile systems?