# The Rapidly Changing Research Information Management Landscape

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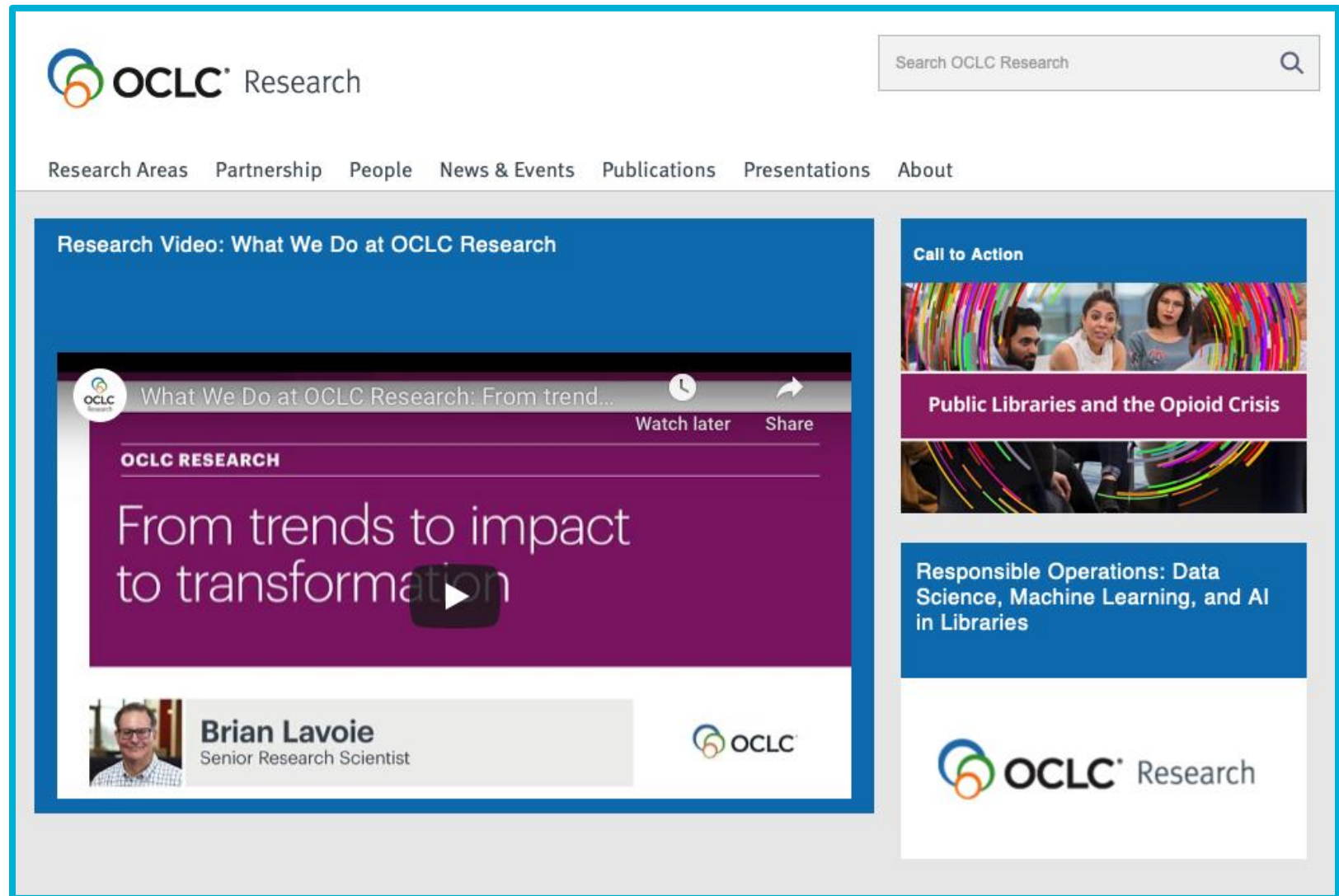
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# OCLC: A global network of libraries

**EMEA**

5,897 members in 75 countries

**Americas**

10,099 members in 25 countries

**Asia Pacific**

1,438 members in 21 countries
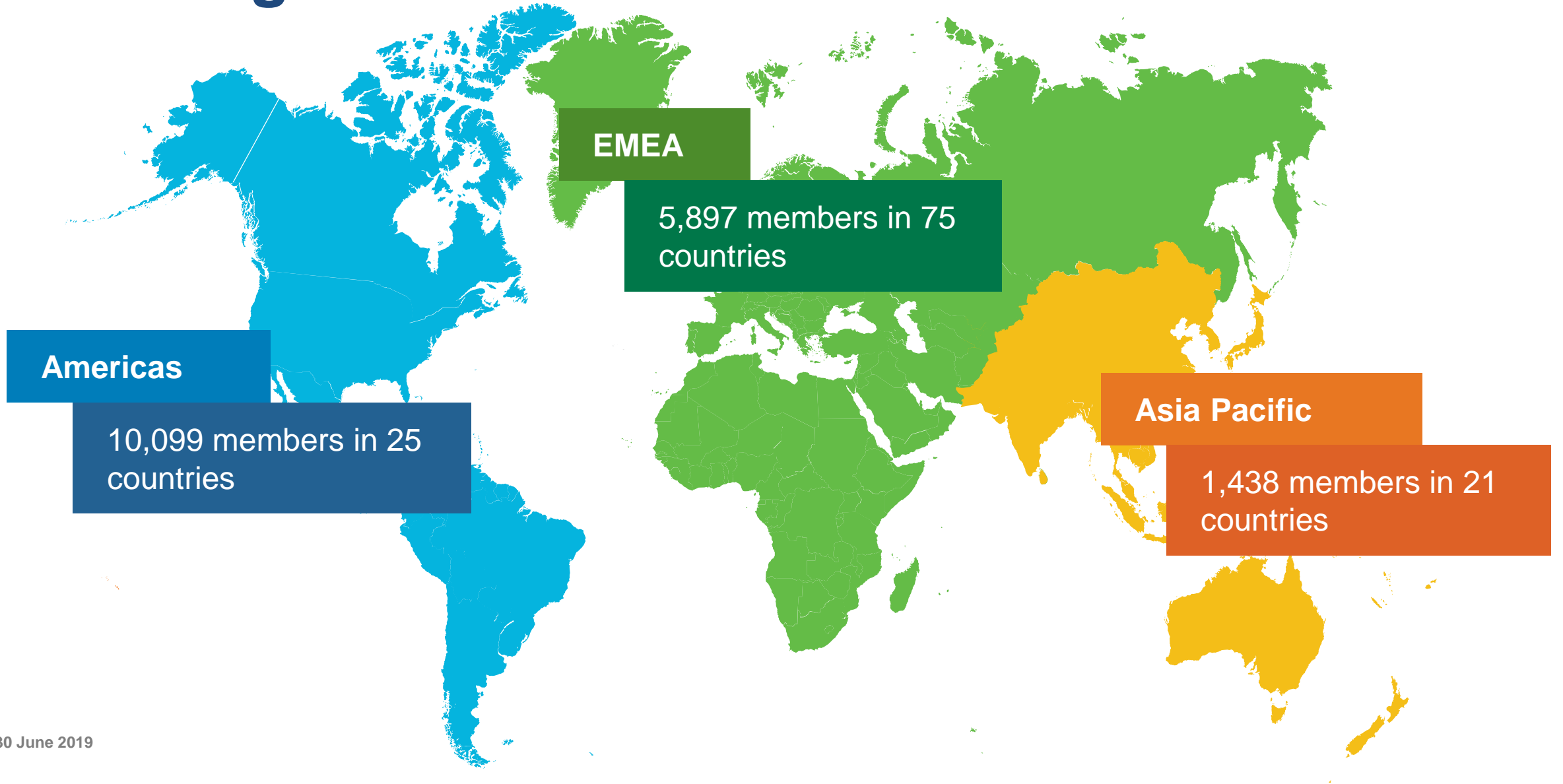
As of **30 June 2019**

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# OCLC® Research

- Devoted to challenges facing libraries and archives since 1978
- Aims to scale and accelerate library learning, innovation, and collaboration
- oc.lc/research

# Land Acknowledgment

*I acknowledge that the Dublin, Ohio headquarters for OCLC are located on the traditional territory of the Shawnee, Miami, Wyandot and other Indigenous peoples who were removed in the 19th century. I also recognize that earlier native peoples—the Fort Ancient, Hopewell, and Adena—lived in what is now central Ohio for many centuries.*

Adena culture mound in Highbanks Metro Park, central Ohio. Photo by Rebecca Bryant.

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# OCLC Research publications on Research Information Management



**OCLC RESEARCH POSITION PAPER**

Research Information Management: Defining RIM and the Library's Role

**Rebecca Bryant**
OCLC Research (US)

**Anna Clements**
University of St. Andrews (UK)

**Carol Feltes**
Rockefeller University (US)

**David Groenewegen**
Monash University (Australia)

**Simon Huggard**
La Trobe University (Australia)

**Holly Mercer**
University of Tennessee-Knoxville (US)

**Roxanne Missingham**
Australian National University (Australia)

**Maliaca Oxnam**
University of Arizona (US)

**Anne Rauh**
Syracuse University (US)

**John Wright**
University of Calgary (Canada)

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**OCLC RESEARCH REPORT**

Convenience and Compliance:
**Case Studies on Persistent Identifiers in European Research Information Management**
Rebecca Bryant, Annette Dortmund, and Constance Malpas

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**OCLC RESEARCH REPORT**

Practices and Patterns in Research Information Management
**Findings from a Global Survey**
Rebecca Bryant, Anna Clements, Pablo de Castro, Joanne Cantrell, Annette Dortmund, Jan Fransen, Peggy Gallagher, Michele Mennielli

euroCRIS  OCLC

oc.lc/rim

# RIM =

## The aggregation, curation, and utilization of (meta)data about research activities
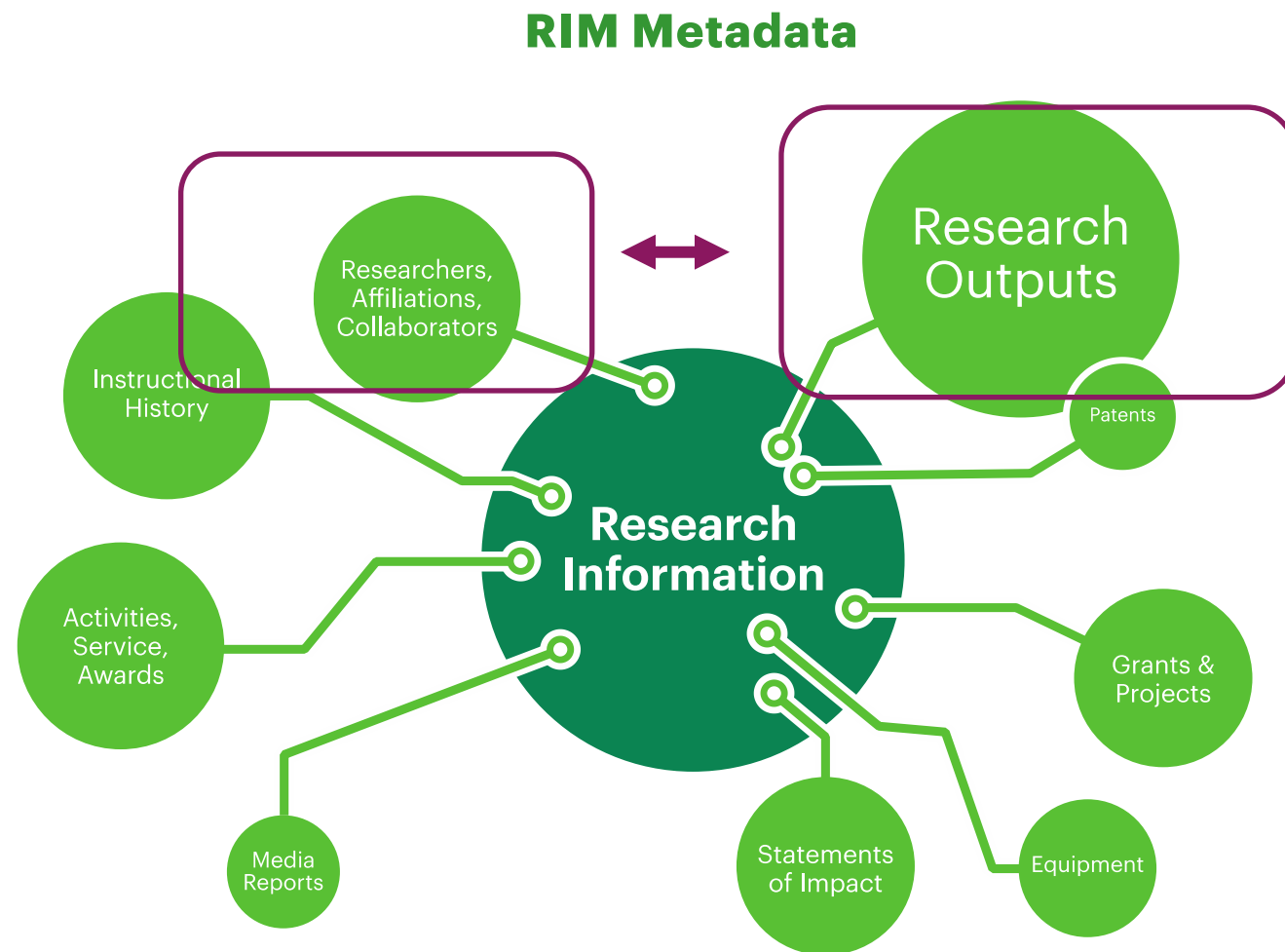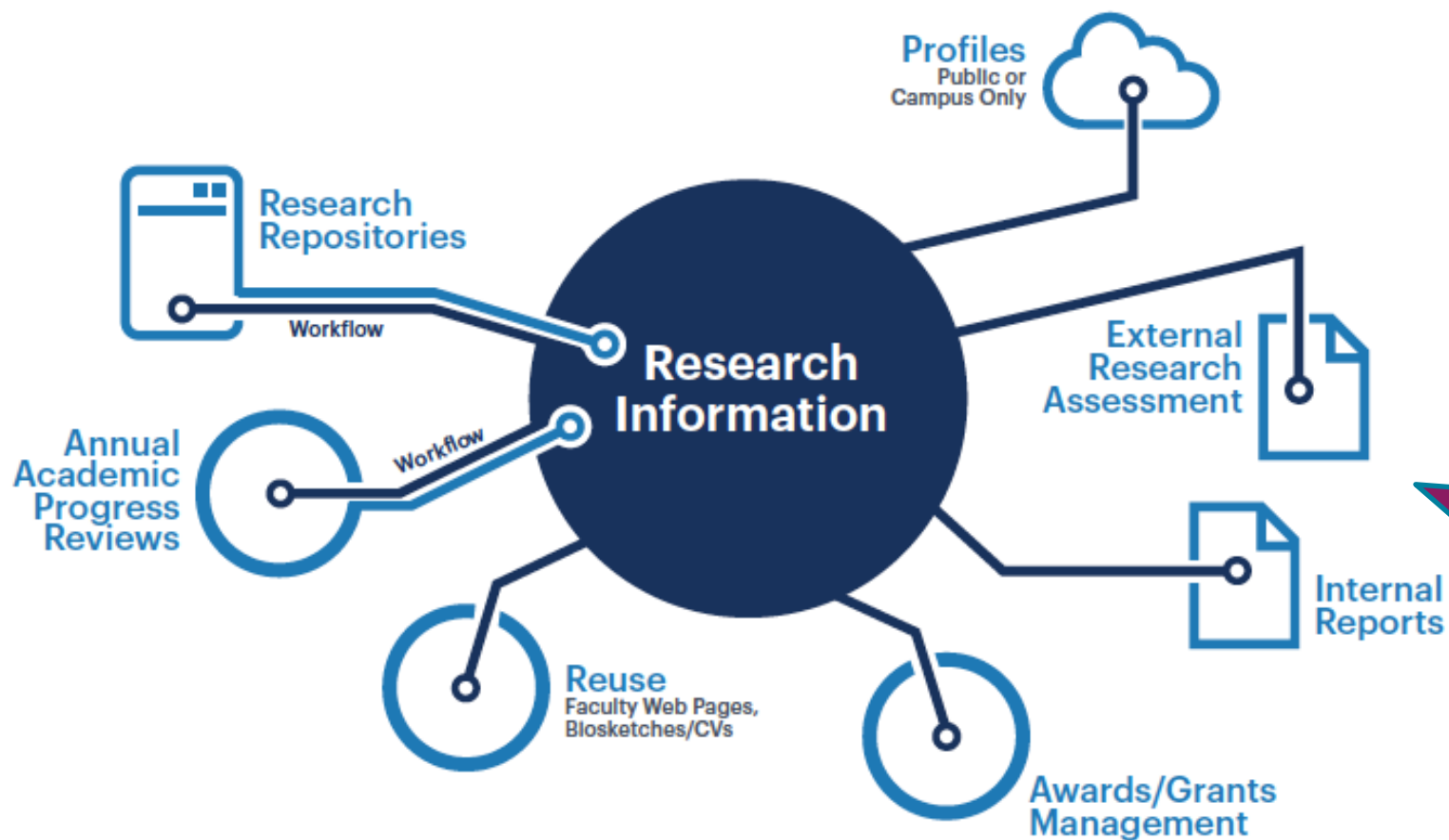
# > than

## EXPERT FINDER SYSTEMS

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# What they include

RIM systems collect the scholarly output of an institution. . . and can be combined with other institutional data

**RIM Metadata**

# What we use them for



There are multiple RIM use cases, varying by institution and region

Many institutions have more than one use.

**RIM**

- EFS (Expert Finder System)
- RNS (Research Networking System)
- RPS (Research Profiling System)

- FAR (Faculty Activity Reporting)

- CRIS (Current Research Information System)
- RIMS (Research Information Management System)
- RIS (Research Information System)

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RIM

VIVO

ELSEVIER Pure

Elements

Clarivate Analytics Converis

interfolio

.::DigitalMeasures by Watermark™

DSpace DSpace-CRIS

ExLibris Esploro

Home grown
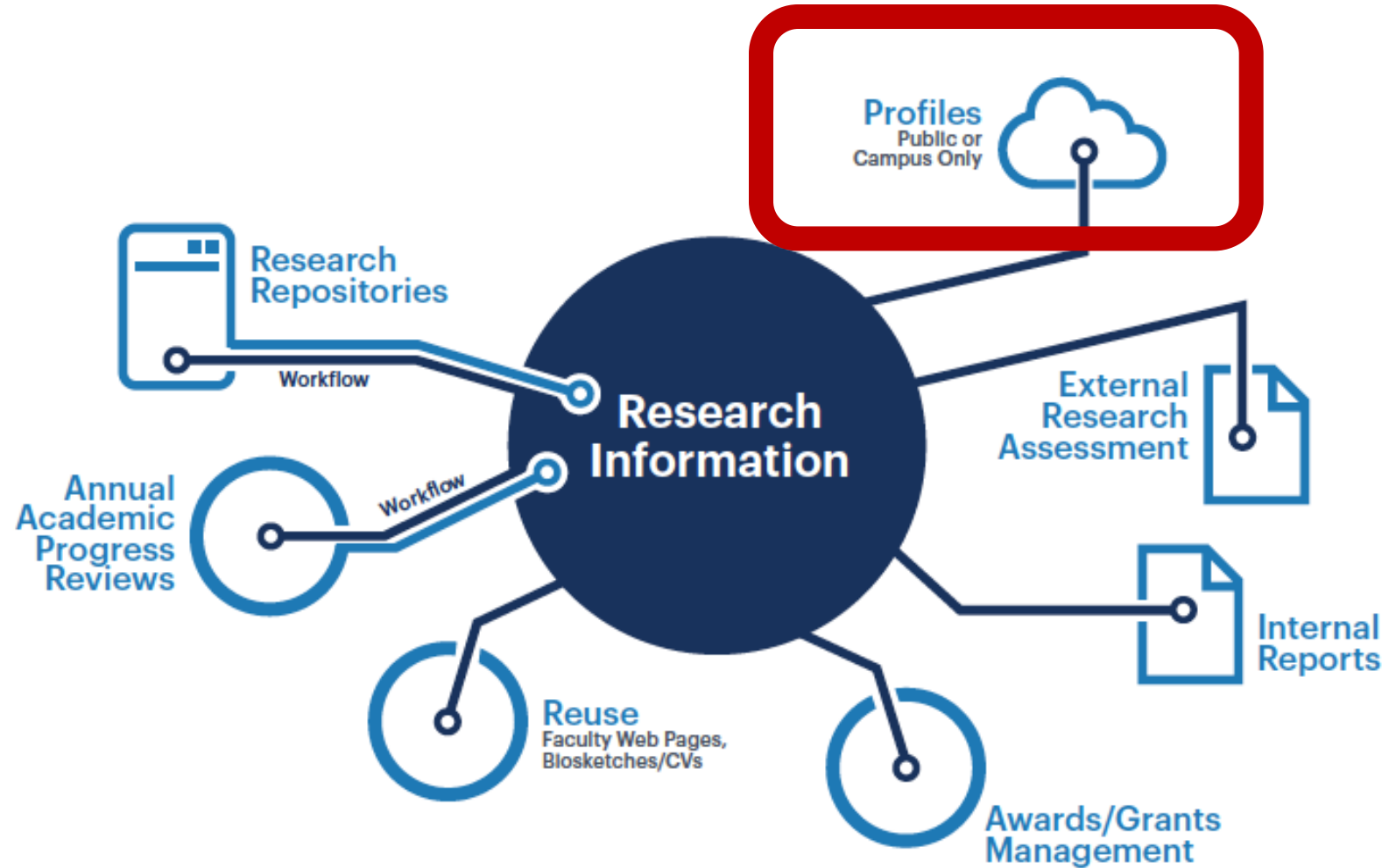
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# RIM Uses

# Public researcher profiles

## Goals

- Support expertise discovery
- Collaboration, particularly internal to campus
- Catalyze business & university relationships
- Institutional reputation management & to enhance external funding dollars

## Nomenclature

- EFS (Expert Finder System)
- RNS (Research Networking System)
- RPS (Research Profiling System)

VIVO

Elements

ELSEVIER Pure

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- https://experts.umn.edu
- Based on Elsevier Pure (since 2015)
- Originally Elsevier SciVal Experts (2012-15 pilot)
- Covers all five University of Minnesota campuses
  - Faculty
  - Researchers (including post docs)
  - Graduate students who are employed in research-related positions
  - Staff members who are likely to publish research (like librarians)

# RIM Uses
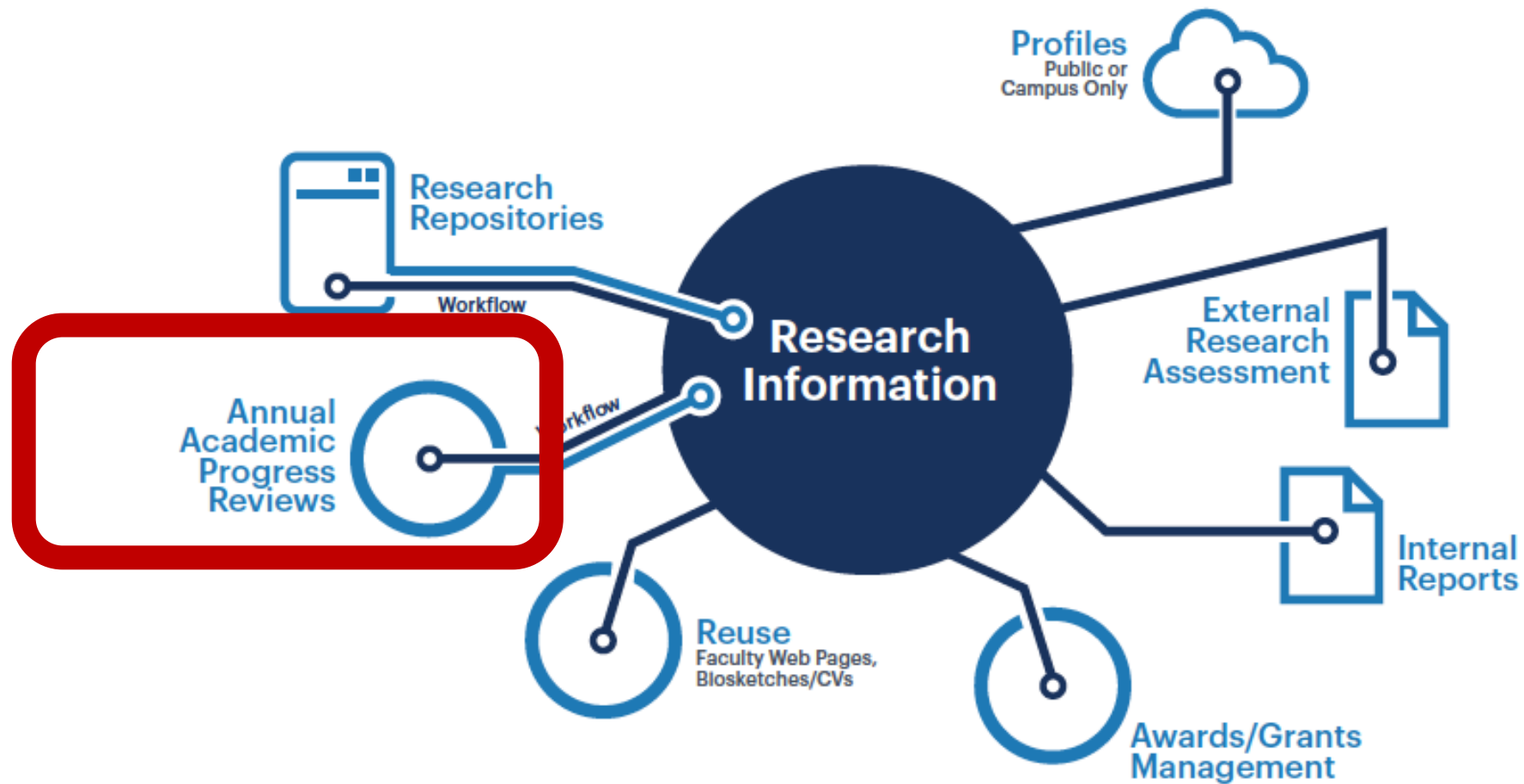
# Faculty Activity Reporting (FAR)

## Goals

- **Support workflow for annual collection & review of faculty research, teaching, and service activities**

## Nomenclature

- Faculty Activity Reporting (FAR)
- Faculty Information System (FIS)
- Annual academic progress reviews
- Faculty Report of Professional Activities (FRPA)

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The Faculty Information System (FIS)
PART OF FINANCE AND BUSINESS STRATEGY

CU Experts | FRPA | CUBE | ORCID | Altmetric | Dimensions | Trainings | Faculty Data Explorer | Faculty Awards Search | NewCUpubs

Welcome to the Faculty Information System!

The Faculty Information System (FIS), developed by the Office of Faculty Affairs, is the system of record used at the University of Colorado Boulder to track faculty information.

Learn more about FIS

**CU Experts**

More on CU Experts

Research profiles and networks for currently active CU Boulder Faculty and Researchers who have entered through FRPA Online

**Impact and Recognition**

Faculty Awards Search

**Annual Activity Reporting**

FRPA

- [www.colorado.edu/fis/](www.colorado.edu/fis/)
- FAR workflow uses Symplectic Elements
- Also populates VIVO public profiles
- Data used to support
  - Web pages
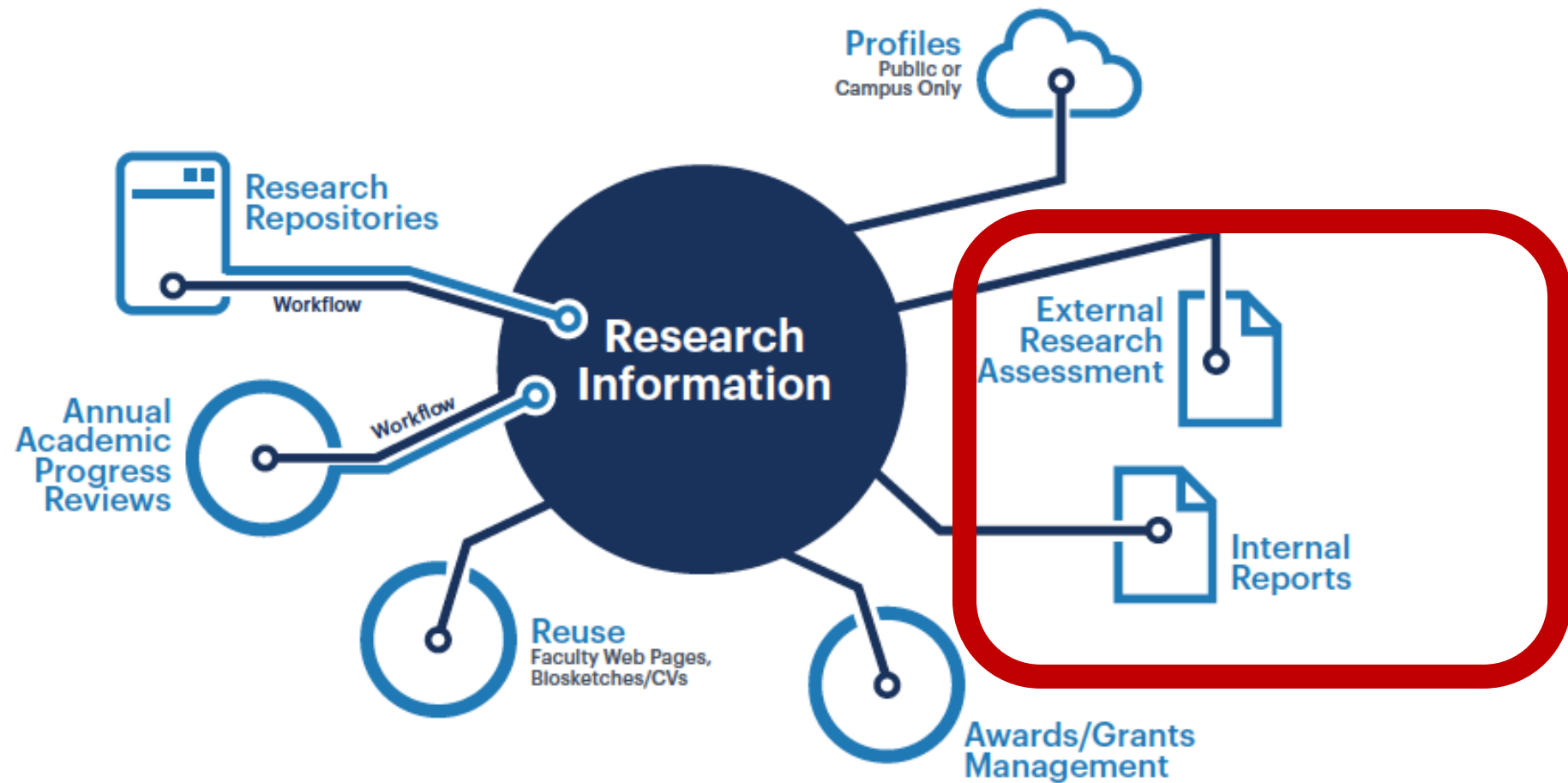  - Grant reporting
  - Media requests

Elements

.::DigitalMeasures by Watermark™

interfolio

Clarivate Analytics Converis

# RIM Uses

# Reporting

## Goals

- Used to describe institutional research activity for reporting purposes—at local, funder, & government levels
  - National example: the UK's Research Excellence Framework (REF), used for assessing the quality of research at UK HEIs.
- This is the traditional "CRIS" system as understood in Europe

## Nomenclature

- Current Research Information System (CRIS)
- Research Information System (RIS)

## History

- CRIS systems were first developed & used in Europe in the early 1990s
- Now broadly used across Europe and beyond
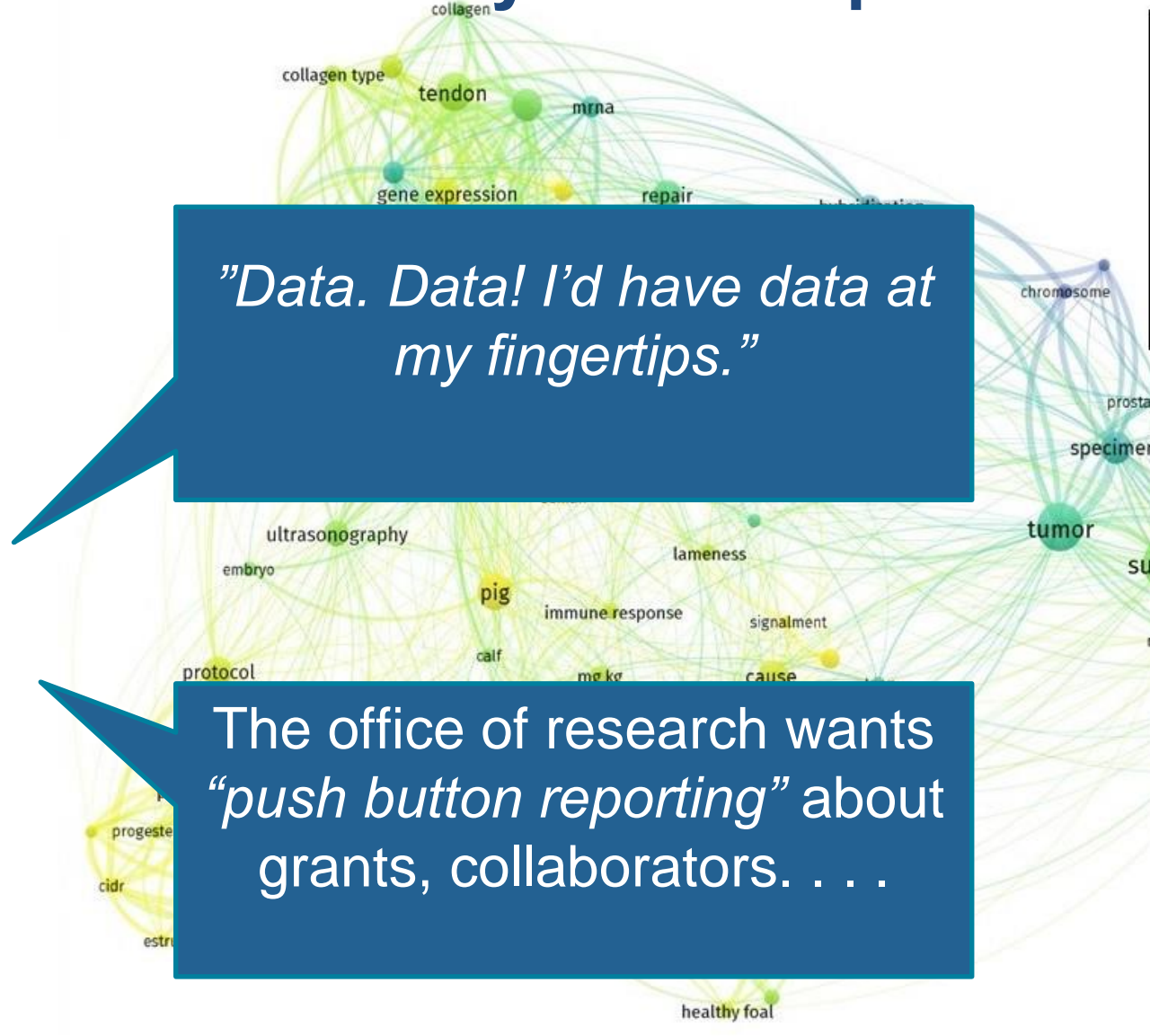- Mature landscape with a professional, pan-European organization, euroCRIS

euroCRIS
Current Research Information Systems

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# Reporting hasn't been the top driver of RIM system adoption in the US

**Why?**

- No national mandates

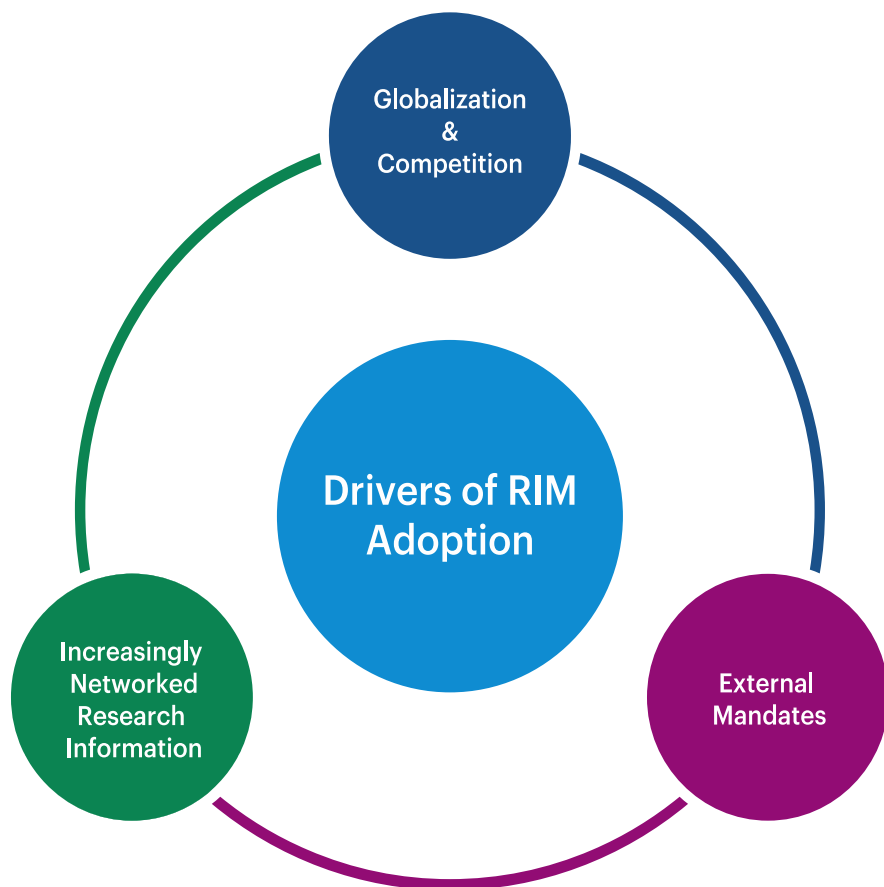**But. . . institutions *do* want better data**

- Once data has been aggregated for other uses, it is easily seen as valuable for reporting purposes, too
  - Data analysis & visualizations
  - Competitive analysis, citation maps, altmetrics, co-authorship networks, and more
- Increasing movement toward
  - Centralized data analytics offices
  - Campus data governance

*"Data. Data! I'd have data at my fingertips."*

The office of research wants *"push button reporting"* about grants, collaborators. . . .

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# Why now? Because we can.



Drivers of RIM Adoption
- Globalization & Competition
- Increasingly Networked Research Information
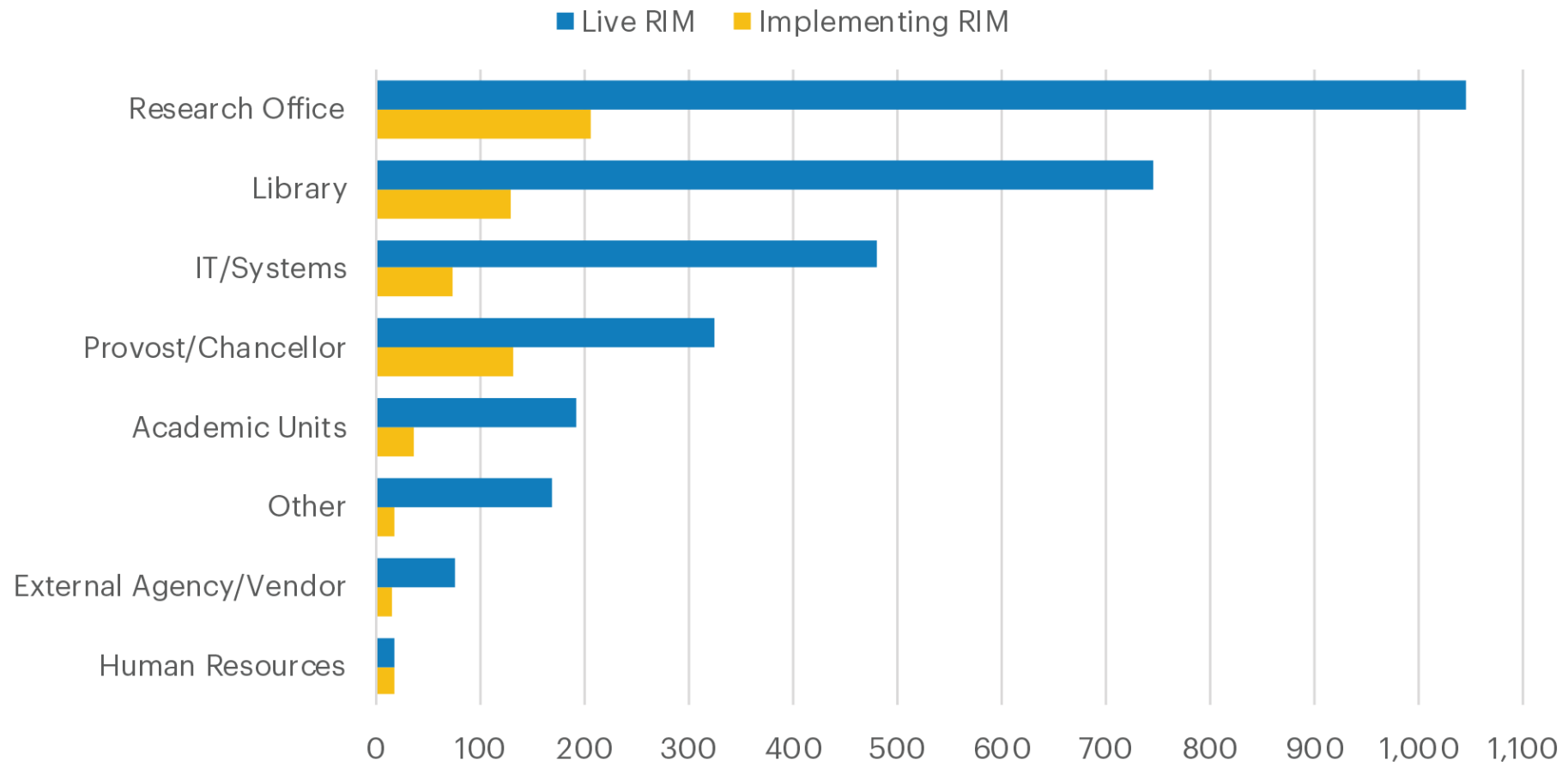- External Mandates

## Advancing technologies, standards, and networked information

- Publication metadata harvesting at scale
  - Scopus
  - Web of Science
  - PubMed
- Persistent Identifiers (PIDs)
  - DOIs
  - ORCIDs
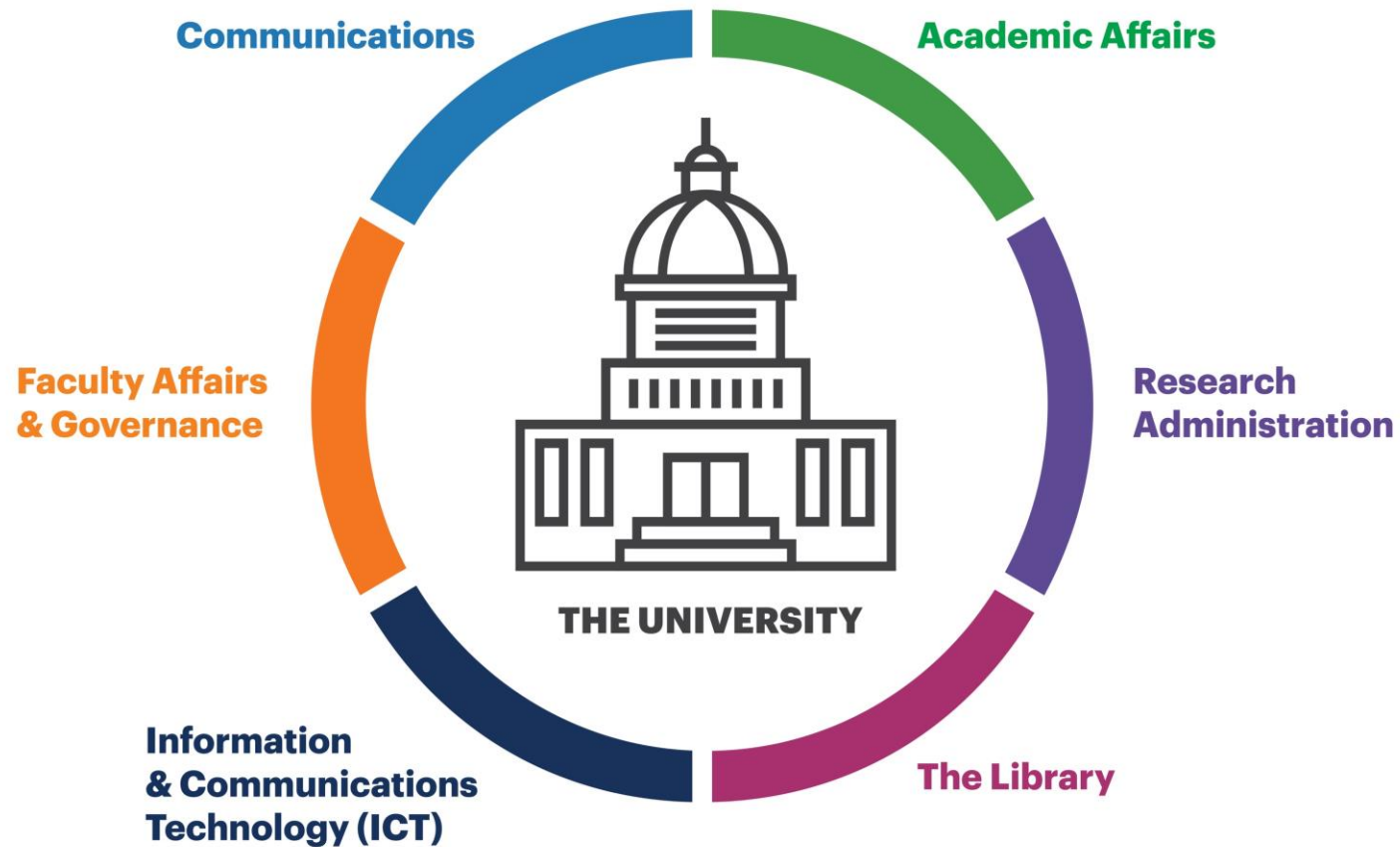  - GRID/ROR identifiers for institutions

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# Who is leading this on our campuses?



**Stakeholders with "Primary Responsibility"
for 14 Specific RIM Activities**
by number of mentions

■ Live RIM   ■ Implementing RIM

| Stakeholder | |
|---|---|
| Research Office | |
| Library | |
| IT/Systems | |
| Provost/Chancellor | |
| Academic Units | |
| Other | |
| External Agency/Vendor | |
| Human Resources | |

0  100  200  300  400  500  600  700  800  900  1,000  1,100

# A Conceptual Model of Campus Research Support Stakeholders

What happens when you have multiple **drivers**, **use cases**, & **stakeholders**?

*. . . And in a highly autonomous & decentralized ecosystem*

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"We have six or seven research profiling systems [on our campus]. That is duplication of service, for sure."
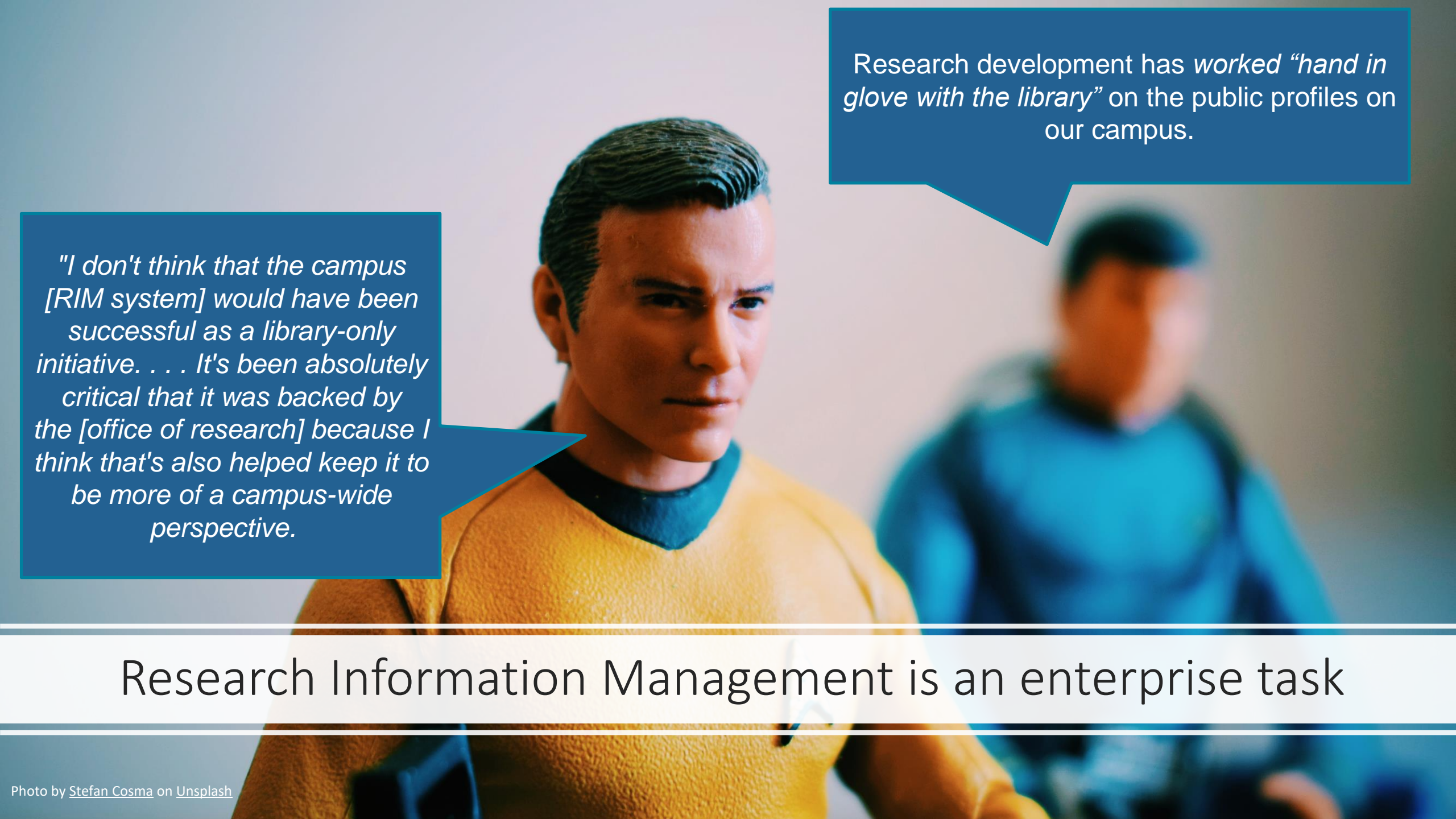
Silos & duplication

- FAR, public profiles, and other systems/workflows are still largely separate
- Colleges & departments still maintain their own processes

**Why does this matter?**
- <mark>We have not yet achieved "enter once, reuse often"</mark>
- The data often can't be aggregated for a consistent, enterprise-level view
- And data that is "good enough" for profiles may be incomplete for other purposes (hello! reporting?)
- Faculty are still being asked to enter information into multiple systems.

Silos & duplication

Research development has *worked "hand in glove with the library"* on the public profiles on our campus.

*"I don't think that the campus [RIM system] would have been successful as a library-only initiative. . . . It's been absolutely critical that it was backed by the [office of research] because I think that's also helped keep it to be more of a campus-wide perspective.*

Research Information Management is an enterprise task

# We need improved interoperability

## Technical

- Institutions struggle to aggregate content from various systems like HR, grants
- Data not "fit for purpose"
- We need broader PID adoption for disambiguation & data harvesting at scale

A new university president is "appalled" at the difficulty of understanding institutional research strengths in a data rich way.

## Social

- Individuals and units don't know how their knowledge and data can work together

*"There just needs to be the human touch and coordination behind the scenes to make sure that all the units are working together . . . and that all the efforts are strategically aligned."*

## Social interoperability

Creation and maintenance of working relationships across individuals and organizational units that promote collaboration, communication, and mutual understanding.

While "technical interoperability"—different technical systems working smoothly together—may be a more familiar concept, social interoperability is of growing importance in a landscape where cross-campus partnerships are becoming both more prevalent and more necessary.

**oc.lc/social-interoperability**

# That makes sense. Why haven't we doing more of this?

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"It all takes longer and has more dependencies than you think."

Working across campus can be HARD

. . .because universities are "complex adaptive systems"

1. Non-linear, dynamic behavior

2. Independent agents

3. Goals and behaviors that differ or conflict

4. Intelligent and learning agents

5. Self-organization

6. No single point(s) of control

Implementing a campus RIM system is like "herding flaming cats."

Rouse, William B. 2016. *Universities as Complex Enterprises: How Academia Works, Why It Works These Ways, and Where the University Enterprise Is Headed*. New York: Routledge.

Photo courtesy of Rebecca Bryant

# What might the future for RIM look like for US institutions?

- Less tolerance for duplication of efforts, costs, staff, licenses
- Growing need to aggregate data at the institutional level

- Increasing S2S (technical) interoperability
- More RIM efforts co-led by multiple units (social interoperability)

Growing need for a vendor-agnostic US/North American RIM community of practice



Photo by Krisztian Matyas on Unsplash

**OCLC Research Project:**

# Research Information Management at US Institutions

| Case studies of four US Institutions | Project team |
|---|---|

- Texas A&M
- Virginia Tech
- UCLA (including the University of California system-wide practices)
- University of Miami

- **Rebecca Bryant**, OCLC Research
- **Jan Fransen**, University of Minnesota
- **Pablo de Castro**, Strathclyde University & euroCRIS
- **Brenna Helmstutler**, Syracuse University
- **David Scherer**, Carnegie Mellon University

**Learn more at oc.lc/us-rim-project**
**OCLC Research report expected summer 2021**

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# References

Bryant, Rebecca, Annette Dortmund, and Brian Lavoie. 2020. *Social Interoperability in Research Support: Cross-Campus Partnerships and the University Research Enterprise*. Dublin, OH: OCLC Research. https://doi.org/10.25333/wyrd-n586

Bryant, Rebecca, Anna Clements, Pablo de Castro, Joanne Cantrell, Annette Dortmund, Jan Fransen, Peggy Gallagher, and Michele Mennielli. 2018. *Practices and Patterns in Research Information Management: Findings from a Global Survey*. Dublin, OH: OCLC Research. https://doi.org/10.25333/BGFG-D241

Bryant, Rebecca, Annette Dortmund, and Constance Malpas. 2017. *Convenience and Compliance: Case Studies on Persistent Identifiers in European Research Information*. Dublin, Ohio: OCLC Research. doi:10.25333/C32K7M

Bryant, Rebecca, Anna Clements, Carol Feltes, David Groenewegen, Simon Huggard, Holly Mercer, Roxanne Missingham, Maliaca Oxnam, Anne Rauh and John Wright. 2017. *Research Information Management: Defining RIM and the Library's Role*. Dublin, OH: OCLC Research. doi:10.25333/C3NK88

de Castro, Pablo. 2014. *7 things you should know about Institutional Repositories, CRIS Systems, and their Interoperability*. COAR blog, 6 October 2014. https://www.coar-repositories.org/news-updates/7-things-you-should-know-aboutirs/

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