CONNECTING THE DATA DOTS TO IDENTIFY RESEARCH EXPERTISE IN LARGE UNIVERSITIES

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CONTEXT

- Why was this application developed in the Graduate School?
  - Membership - Supervision
  - Find a supervisor use case
- Existing systems
  - Research performance management such as SciVal
  - No central Research Information Management System
- Most departments have profiles of faculty members (huge variety)
- No easily accessible option to query expertise across all available data
- Desire: 100% coverage without required manual action

DEMO

- Researcher Search
  - Variations: Postdoc / Supervisor Search
- Directory
- Recruitment Projects
- Postdoc Directory
- International Engagement
  - By country
  - By institution
- Contextual
  - Faculty
  - Degree Program
- Partners (VIRS, Co-op, Community Engagement, Sustainability Initiative)

SCOPE

Phase 1:

- All Assistant Professors, Associate Professors, and Professors at UBC Vancouver
- Only existing data indexed

Phase 2:

- Automatically provisioned profiles
- Consistent data from central systems (often not previously published)
- New data through profile updates

Phase 3:

- Self-provisioned profiles for Postdocs at UBC Vancouver & Okanagan

Phase 4:

- Self-provisioned profiles for all other faculty at UBC Vancouver & Okanagan

Groups

Supervisors

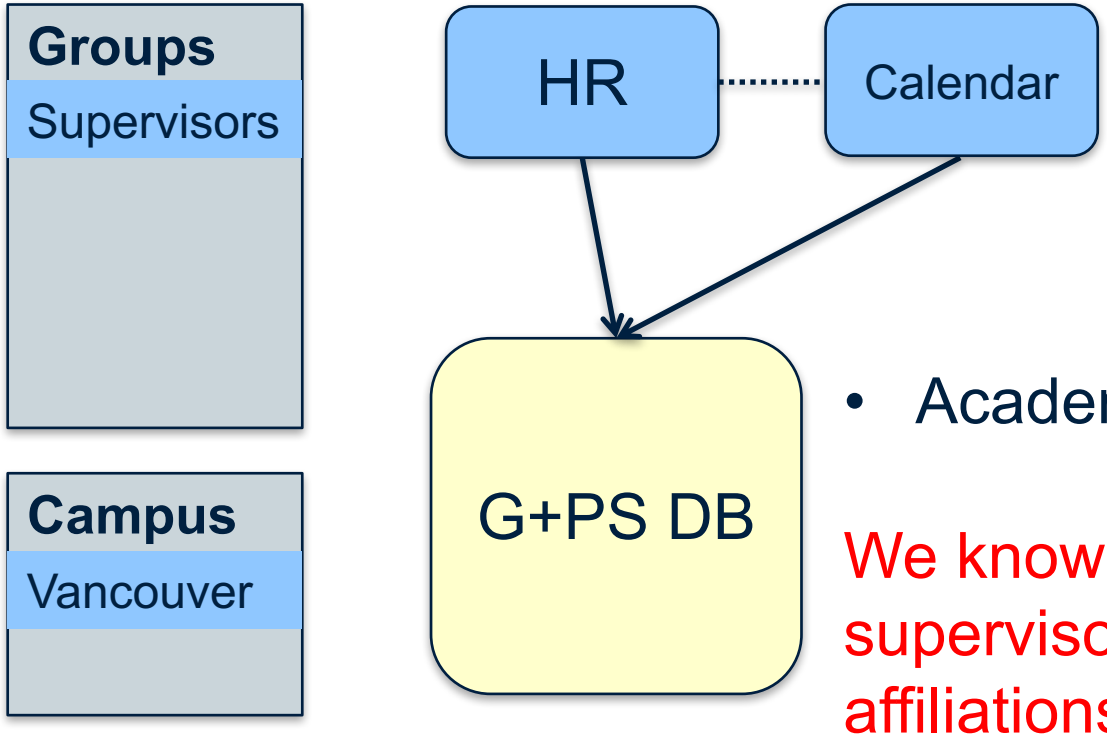
Campus

Vancouver

HR

- Employee ID
- Names / Preferred Names
- Role (Job Code, Job Title)
- Status
- Department
- Faculty
- Email
- Phone

Scheduled CSV extract



- Academic Affiliations

We know all the supervisors and their affiliations, but nothing about their research!

Manual update

Groups

Supervisors

Campus

Vancouver

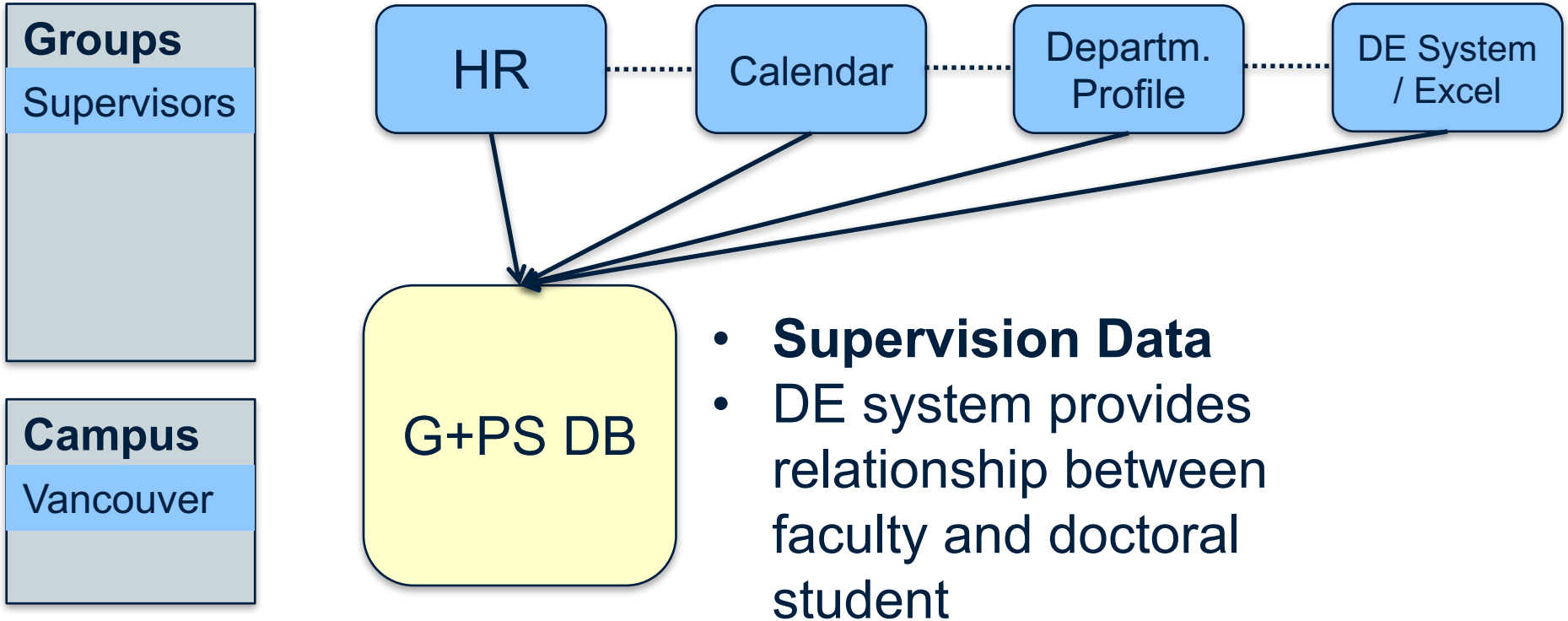
Unstructured data

- Huge variety of profiles
- May include research expertise
- Project descriptions
- Current student details

Structured data (one time load)

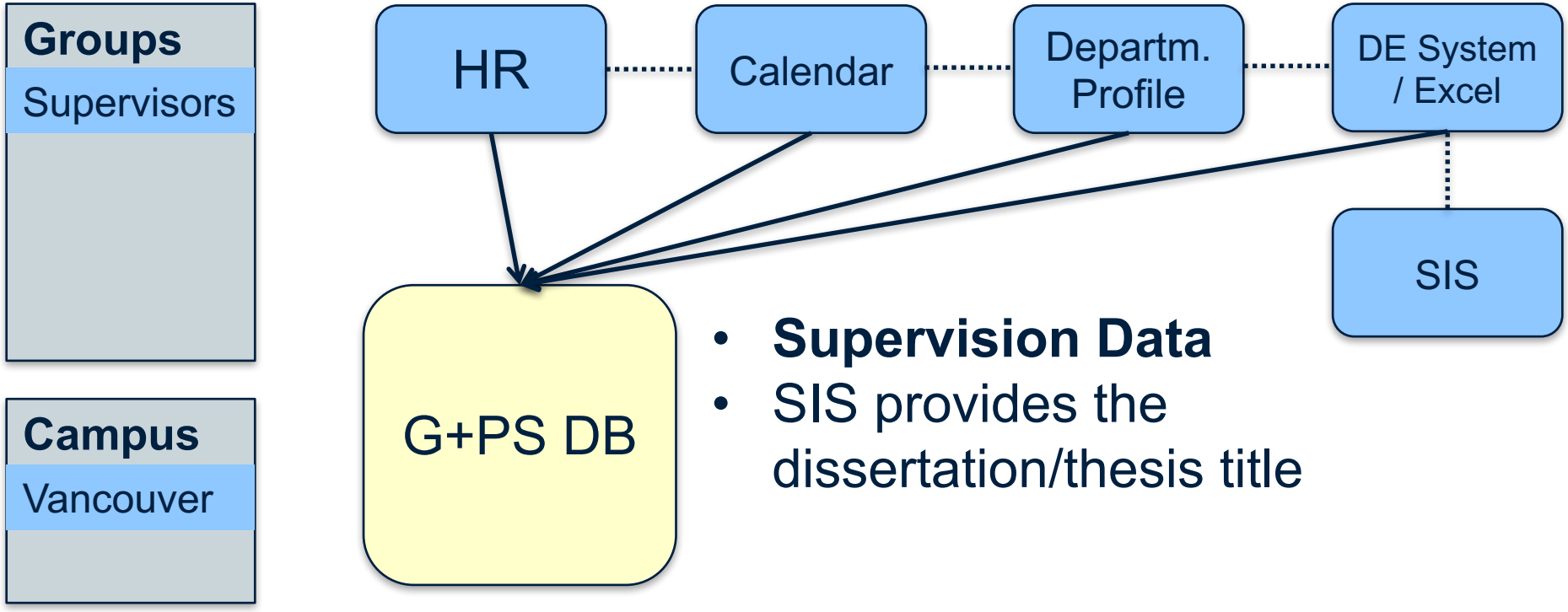
- UBC media experts
- Internal expertise list

Custom script, time-based

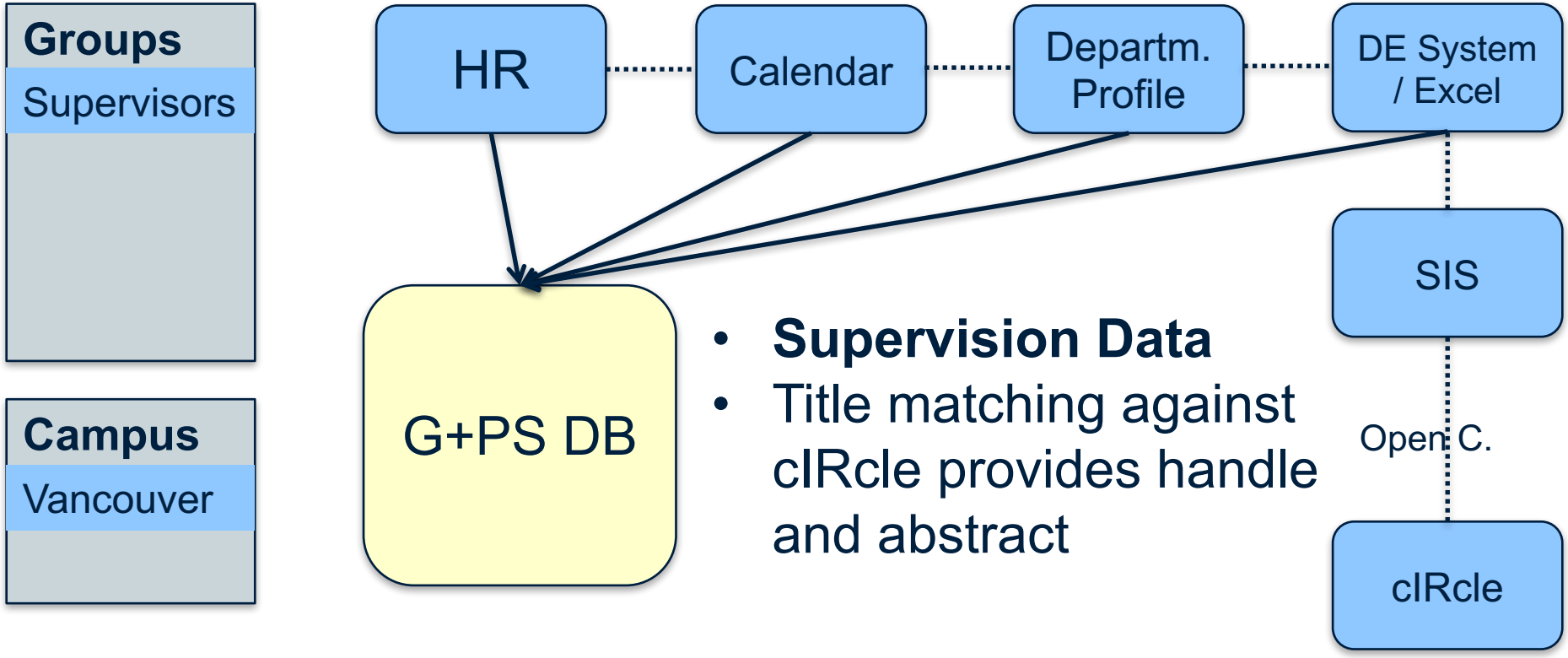


- **Supervision Data**
- DE system provides relationship between faculty and doctoral student
- Digitization of Master forms ongoing

Database extract, paper



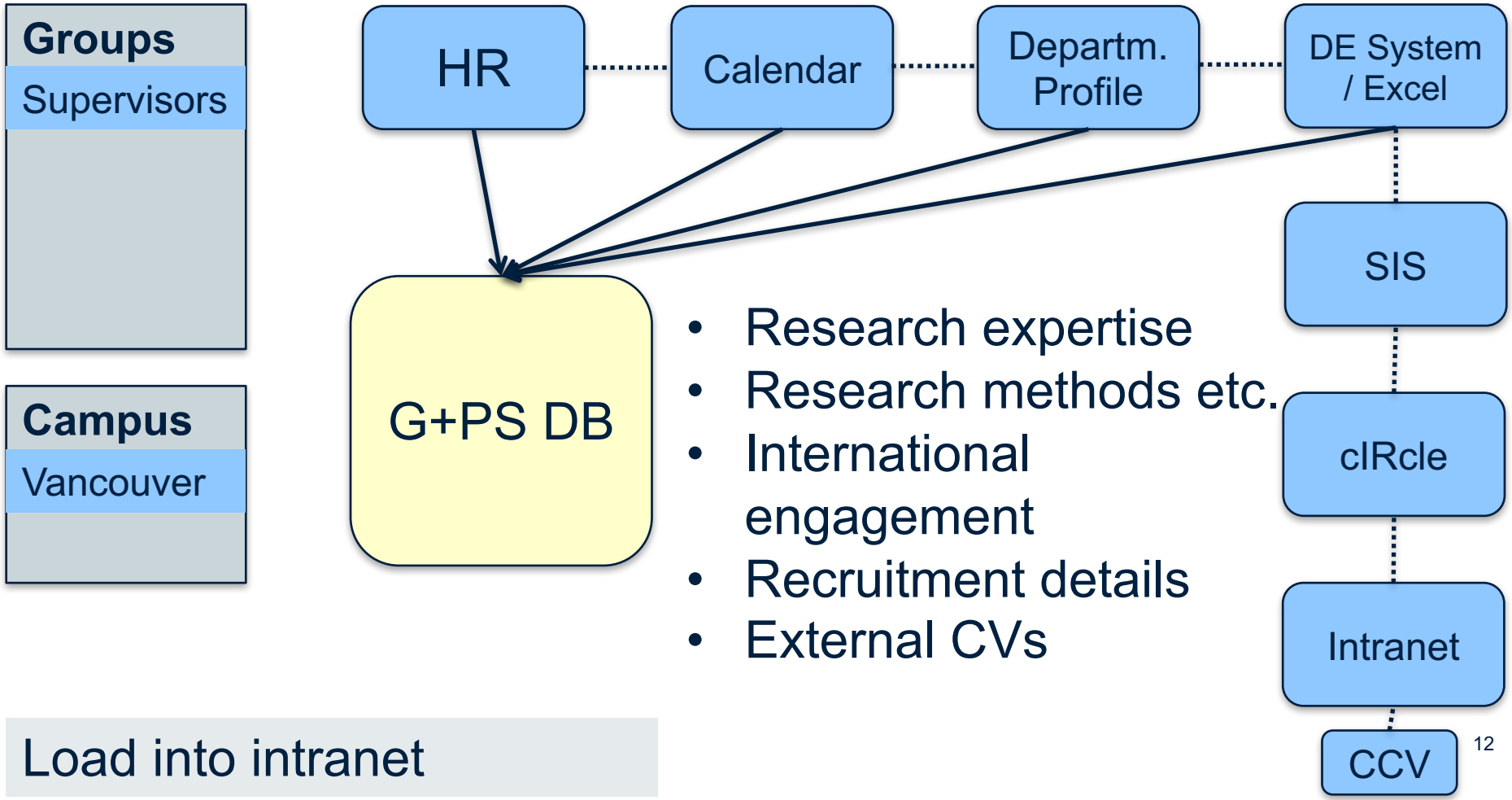
Manual export (6 months)



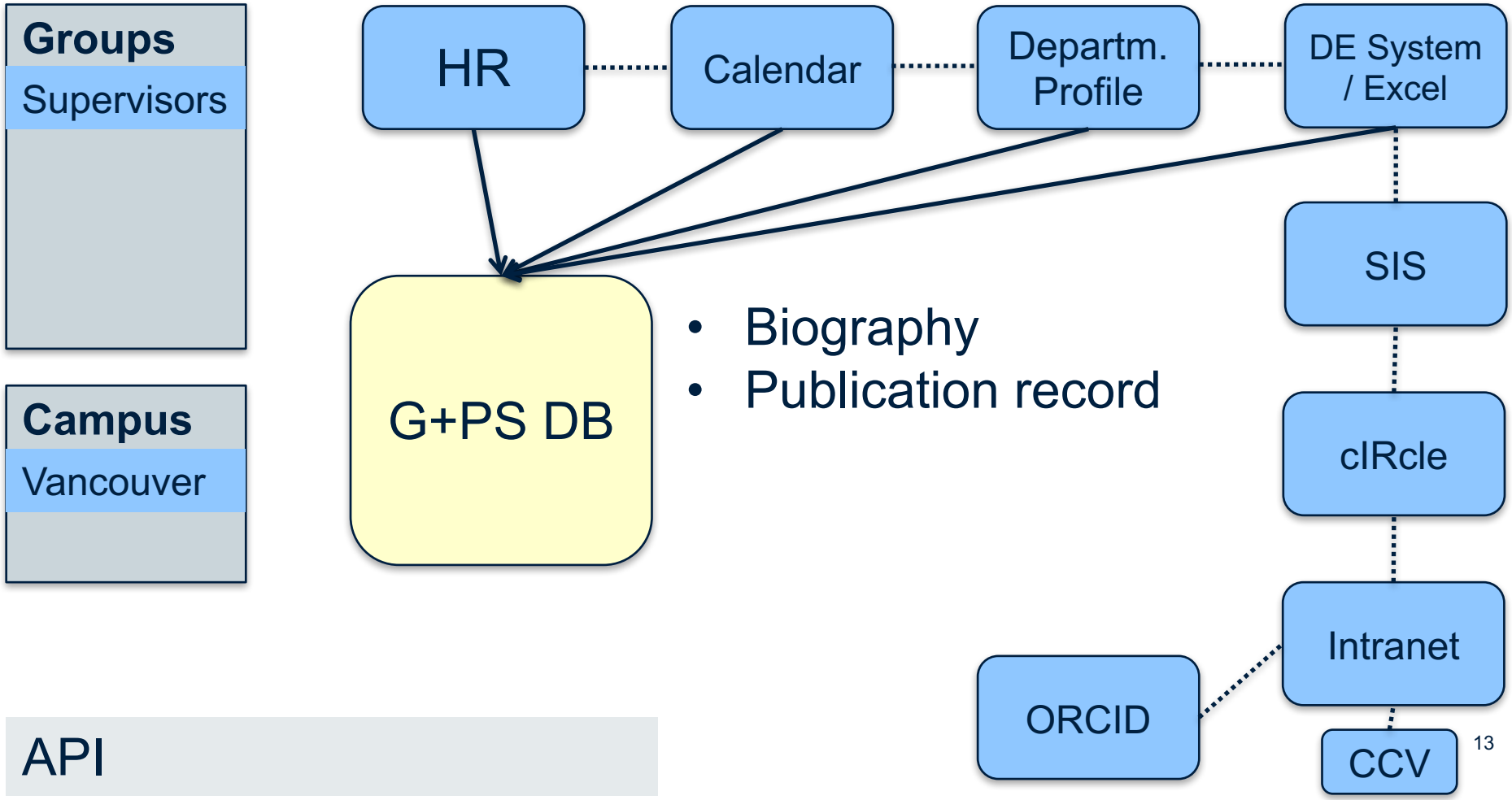
API, database procedure

UBC OPEN COLLECTIONS

- UBC Library digital assets coming from DSpace, Dataverse, AtoM and CONTENTdm
- More than 219,000 digital objects
- RESTful API - https://open.library.ubc.ca/research to get content out and in
- DOIs minted to all items
- Also used by the national Federated Research Data Repository (FRDR) - a national discovery layer for research data



Load into intranet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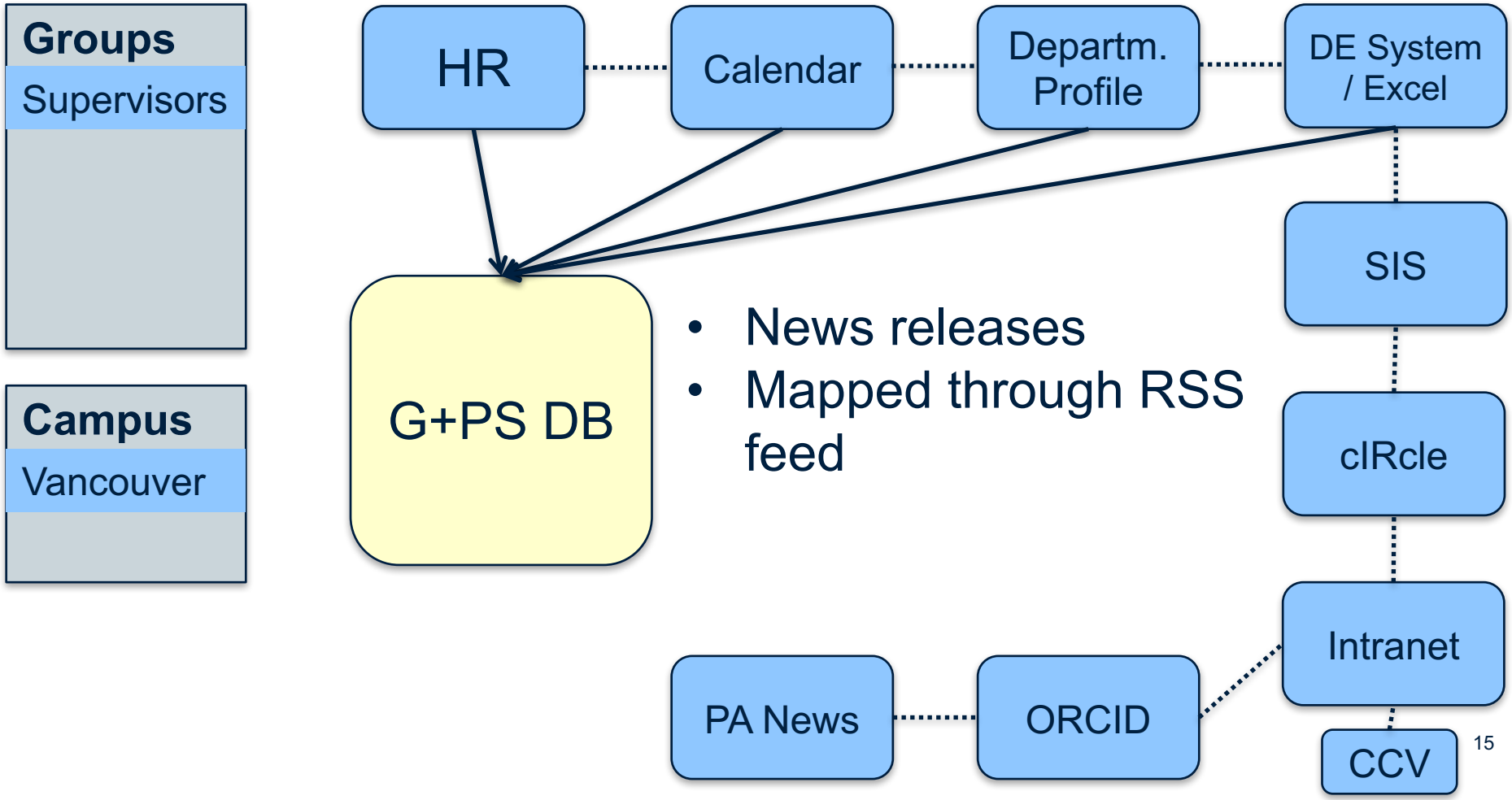
Campus
Vancouver
HR
Calendar
Departm. Profile
DE System / Excel
SIS
G+PS DB
• Biography
• Publication record
clRcle
Intranet
ORCID
CCV
API

ORCID

- Provides a persistent digital identifier to distinguish you from others and supports you in your manuscript and grant submission activities
- UBC does not currently have a campus-wide policy on ORCID use
- Some departments do request their faculty to use ORCID
- We have 5 ORCID-CA channels you can use
- Contact Leonora Crema @UBC Library - leonora.crema@ubc.ca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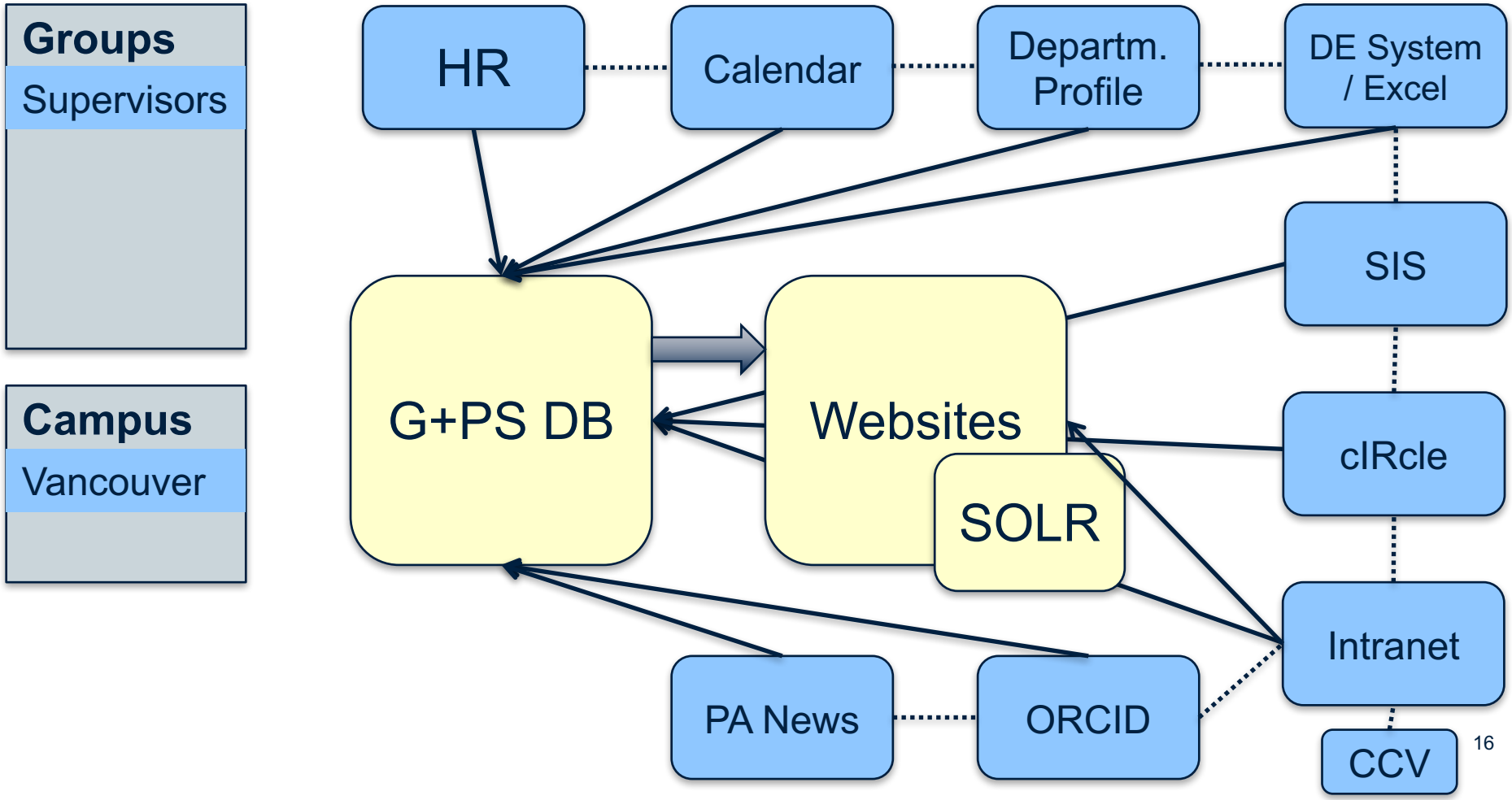
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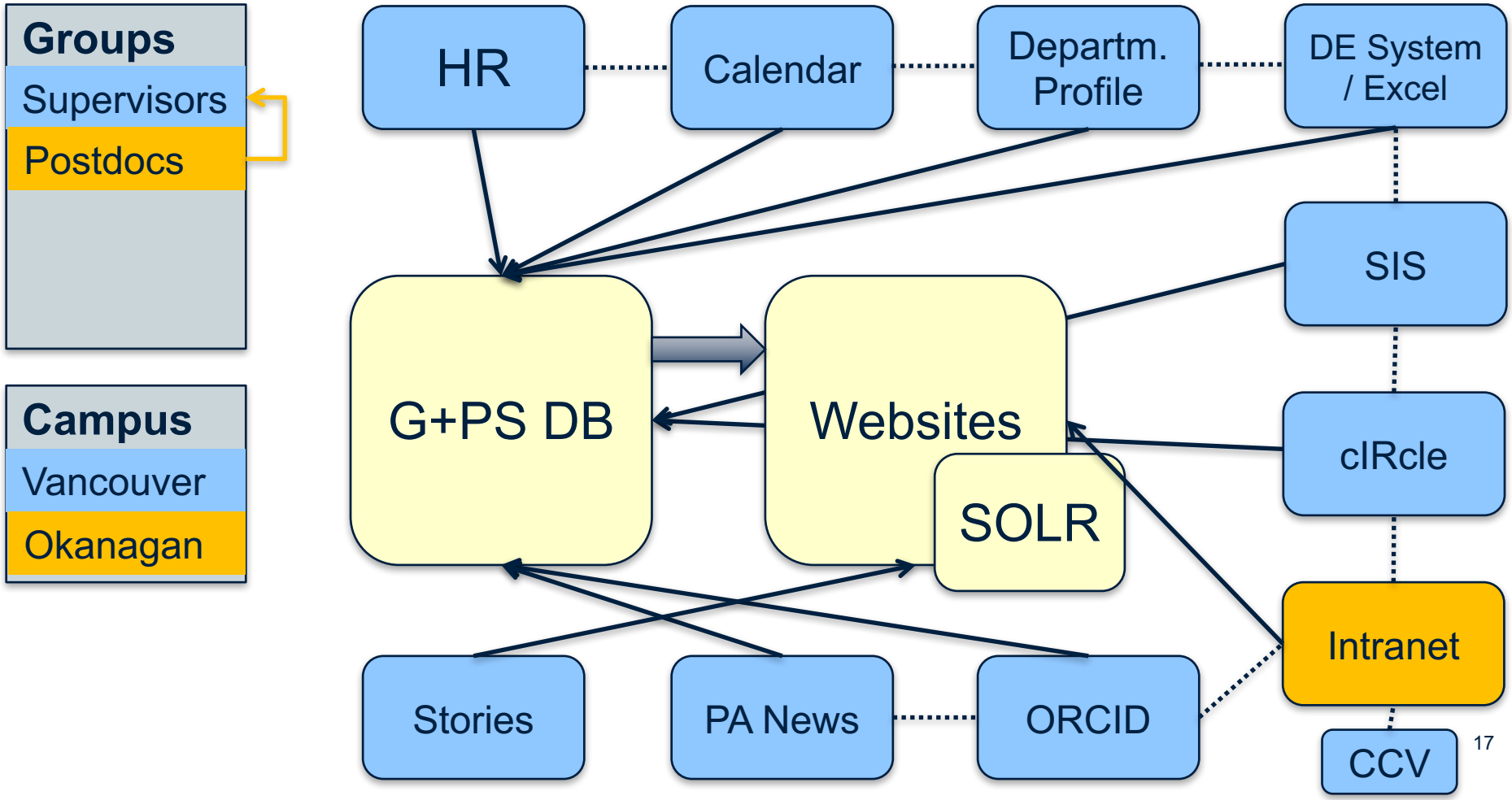
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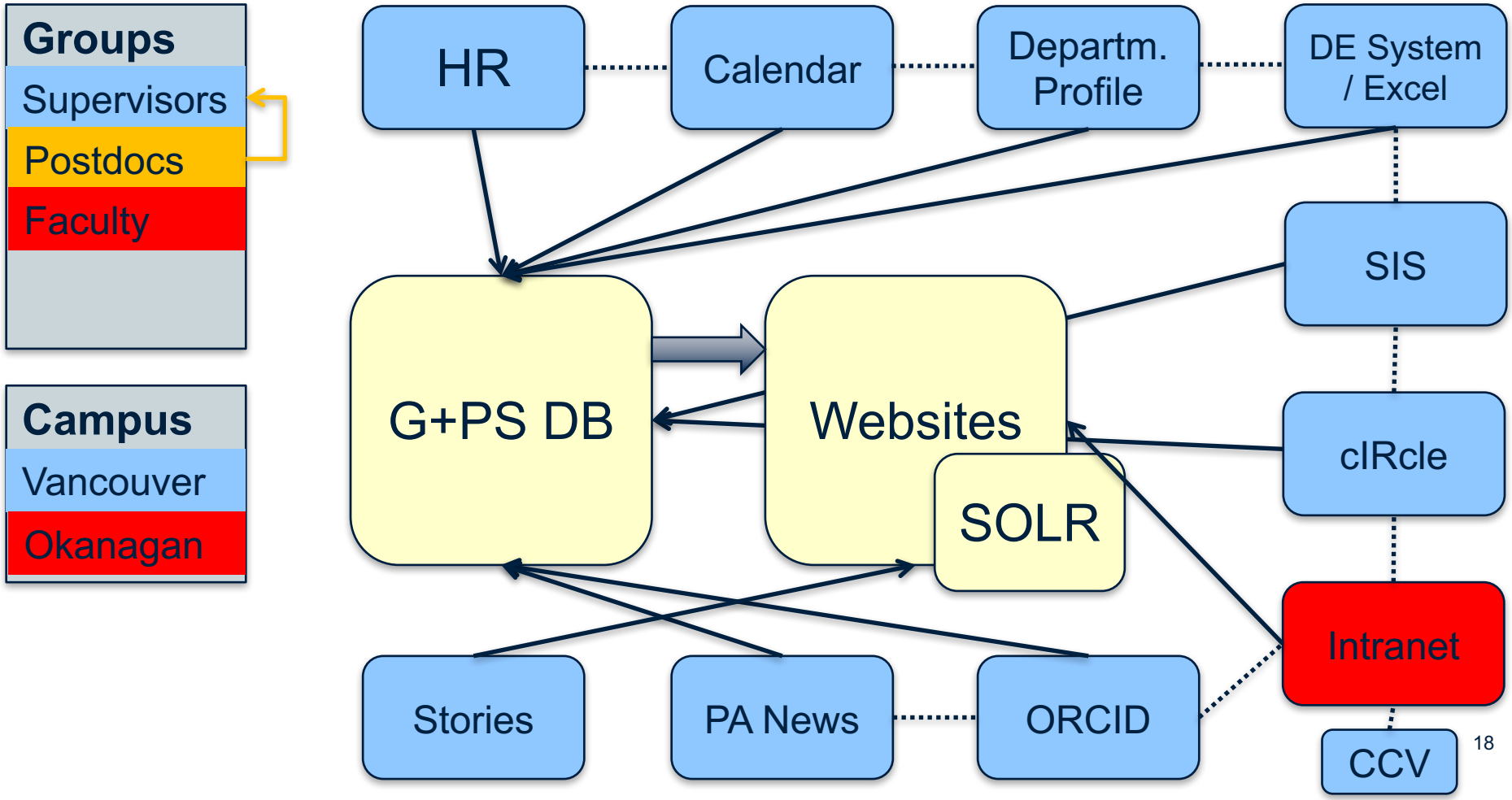
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ENHANCEMENT OPPORTUNITIES

- Scope
    - Future Hires
    - Emeriti
- Figure out issues related to paper delays
- More data to be included
    - Images
    - Project grants, research funding (RISe)
    - Departmental news releases
    - Social media data
    - Alt metrics
- Real-time data
- ORCID member API integration
- Pushing data out, e.g. ELDAP

CHALLENGES & LESSONS LEARNED

- Human factor
  - Agile vs. Waterfall
  - Buy-in
  - Too many systems, too many update requests
  - Requirement to update?
- Data governance
  - Shared taxonomies
  - Data standards
- System interoperability

EXTERNAL OPPORTUNITY-MATCHING

- Donor relations
- Industry partnerships
- Community Engagement
- Government Relations
- International partnerships
- Graduate student/ postdoc recruitment
- Public Affairs/ Media Relations
- Research support offices

INTERNAL STRATEGIC DEVELOPMENT

- Finding appropriate reviewers
- Responding to government priorities/ opportunities
- Cross-campus collaborations
- Designing institutional support to advance research capacity
- Assessing, evaluating, and support interdisciplinary research

EVALUATING EXPERTISE IN INTERDISCIPLINARY TOPICS

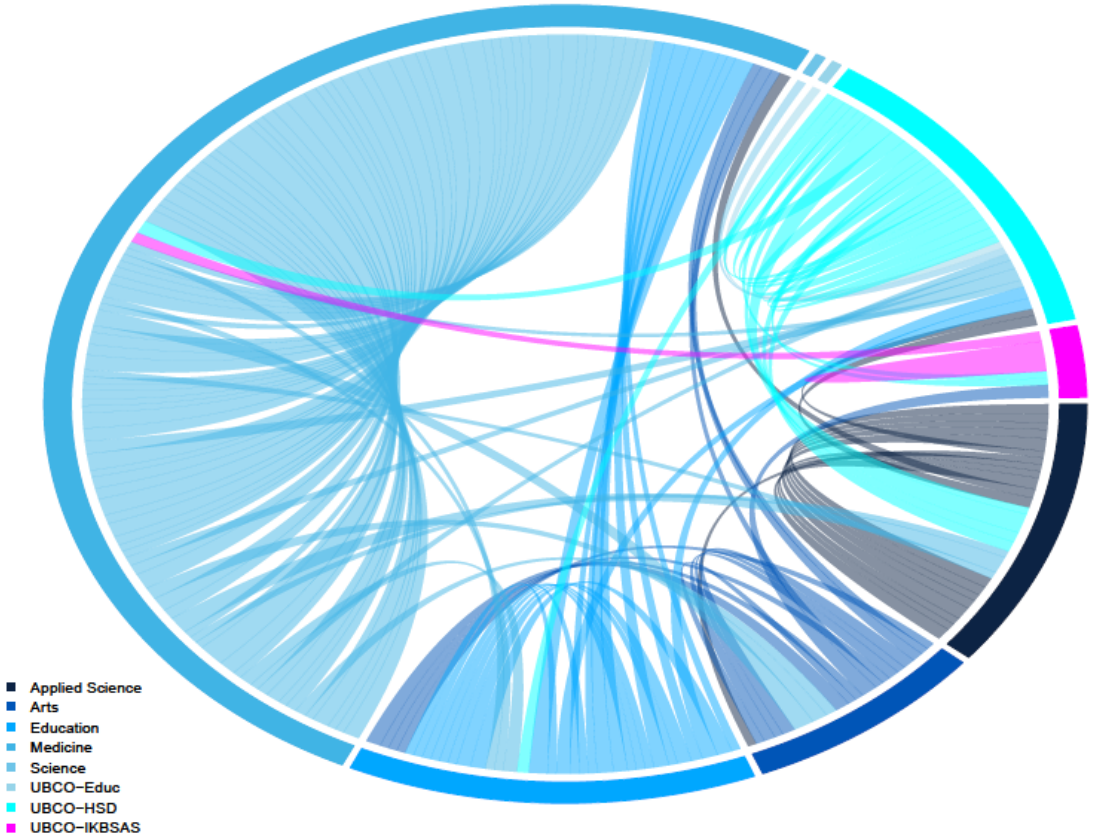
ACTIVITY (example)

	Number of researchers	5-year funding	Researchers with +$1m funding	**Faculties** (% of overall funding)		
Interdisciplinary topic A	120	$142m	28	Medicine (59%) Arts (11%) Education (10%) Applied Science (8%)	UBCO FHSD (5%) UBCO Education (4%) Pharmacy (1%) Science (1%)	UBCO SAS (1%) Dentistry (0.1%) Law (0.1%)

IMPACT (example)

	Academic impact			Economic impact			Recognition	
	Median h-index	Researchers with h-index over 20 (% of total)	Researchers with h-index over 50 (% of total)	Patent applications	Disclosed technologies	Spin offs	CRCs	Significant awards and honors
Interdisciplinary topic A	18.2	50 (42%)	8 (7%)	12	25	1	10	35

ASSESSING COLLABORATION IN INTERDISCIPLINARY TOPICS



(1) Evaluate degree of collaboration
(2) Identify barriers to collaboration
(3) Design support to increase collaboration

SHOWCASING EXPERTISE IN INTERDISCIPLINARY TOPICS

View and showcase research in interdisciplinary topics at the institutional level and not by organizational unit [e.g., Faculty, School, Department]

THE UNIVERSITY OF BRITISH COLUMBIA

UBC's Oceans and Fisheries Cluster

Activities in BC's oceans—fishing, ports and marine transportation, and tourism—are crucial to BC's economy, where they contribute $5.6B to GDP and employ more than 80,000 people (2012). The health of the oceans and its wildlife are essential to Canada's economy and future.

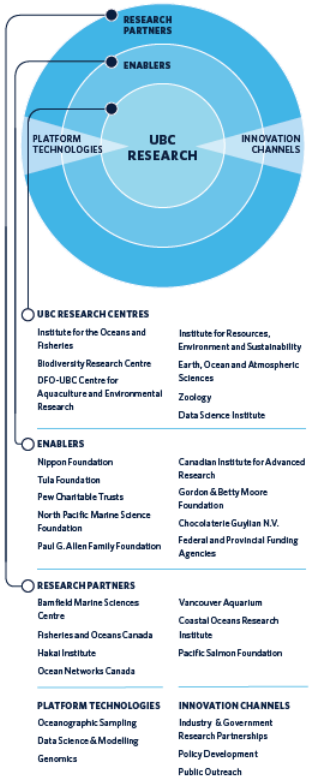
UBC has played a key role in the development of this sector provincially, nationally, and internationally. Oceans and fisheries research at UBC involves 60+ researchers across six faculties. These researchers are at the forefront of their field and collectively:

- engaged in research projects totaling $84+ Million in the last 5 years
- have authored 5,700+ academic publications
- have received 225,000+ citations
- include 7 Canada Research Chairs [including 4 Tier 1 Chairs]
- partner in 3 national NCEs: AQUANET, CBDN, and MEOPAR
- make major contributions to shaping local, provincial, national, and international policy
- are regularly recognized through prestigious international awards and honours.

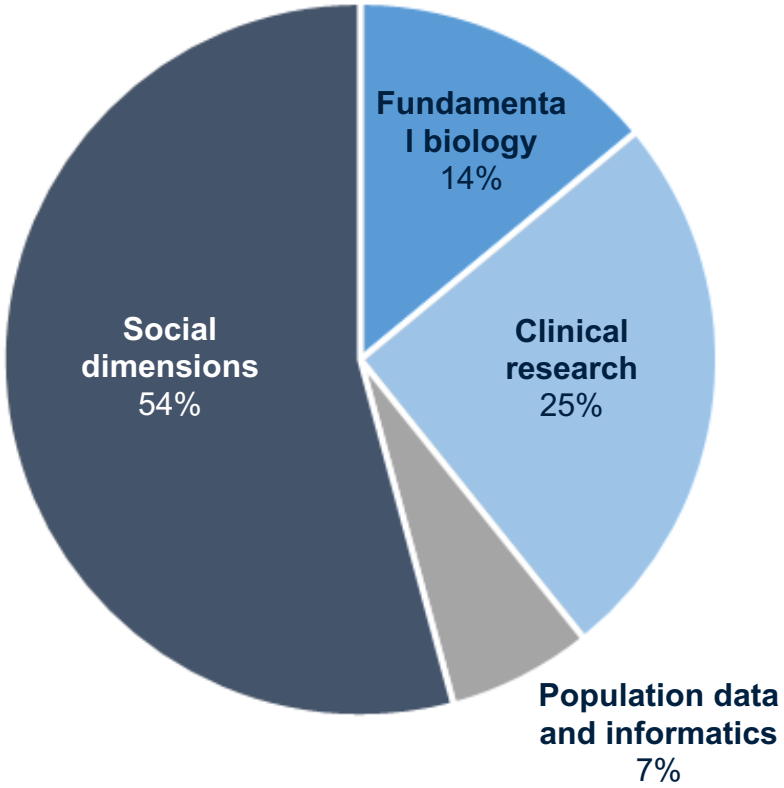
UBC has a long track-record of actively partnering with local marine industry and Fisheries and Oceans Canada to support sustainable growth of the BC ocean economy.

Local and national impacts of UBC research include changing how sockeye salmon fisheries are managed, improved disease monitoring, and contributions to sensitive environmental impact assessments.

UBC research findings have had significant international impacts, including the banning of bottom trawling in Hong Kong, the suspension of seahorse exports from Thailand and the development of ecological monitoring software systems used globally to inform conservation and policy decisions.



ASSESSING RESEARCH IN INTERDISCIPLINARY TOPICS



(1) Evaluate diversity in approach to research
(2) Identify strengths and opportunities
(3) Design support [e.g., new hires]

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