



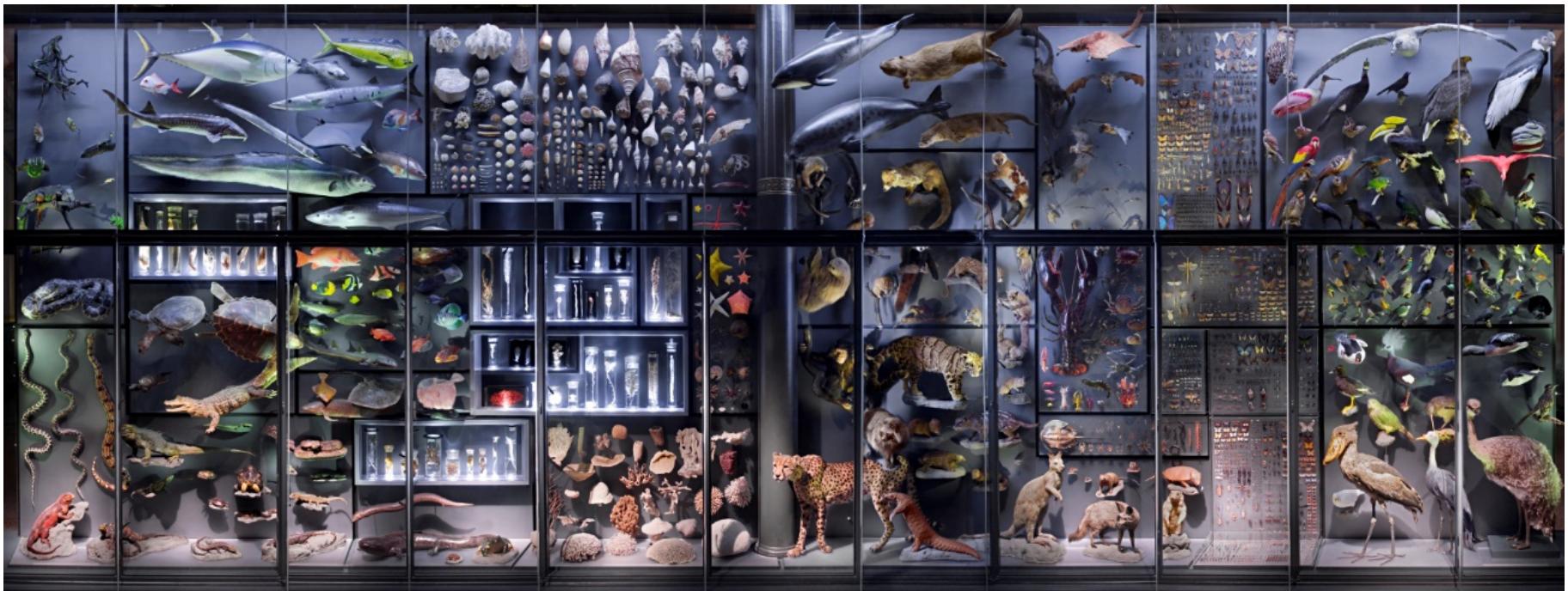
# Towards Sociotechnical Management of Inner- Organisational Knowledge Transfer

Research-in-Progress Report

**Jonas Oppenlaender, Jesse J. Benjamin, Claudia Müller-Birn**



## Research organisations



# Over-arching Goal



Increase internal  
knowledge transfer  
in research organisations

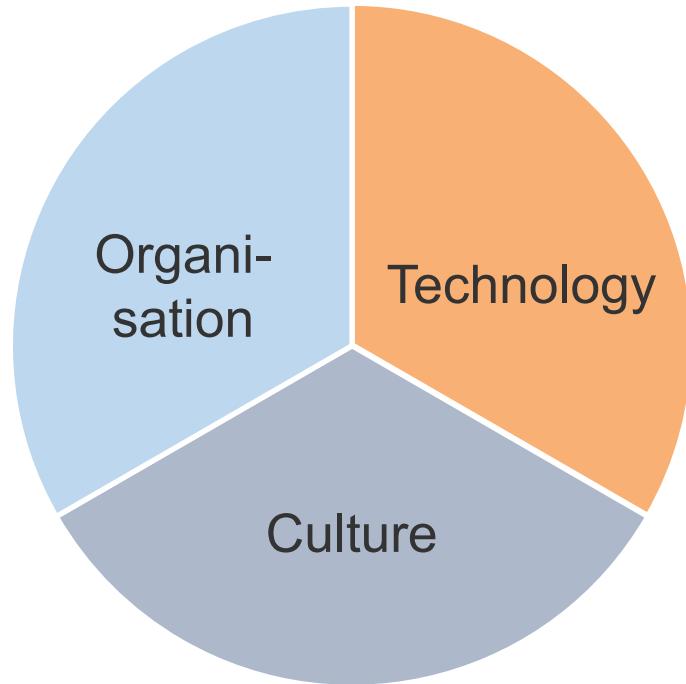


## Internal Knowledge Transfer:

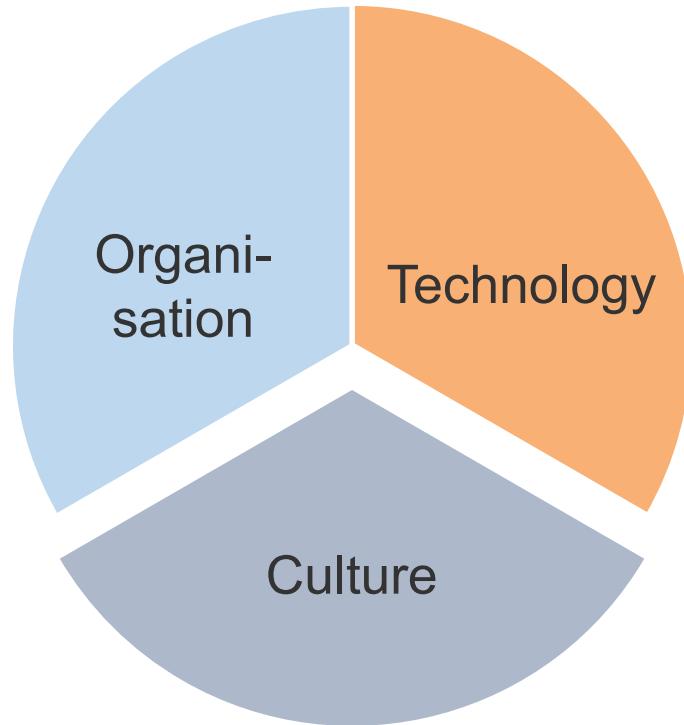
*Exchange of information  
between members  
of the organisation*

- knowledge exchange
- knowledge sharing

# Factors Influencing the Internal Transfer of Knowledge



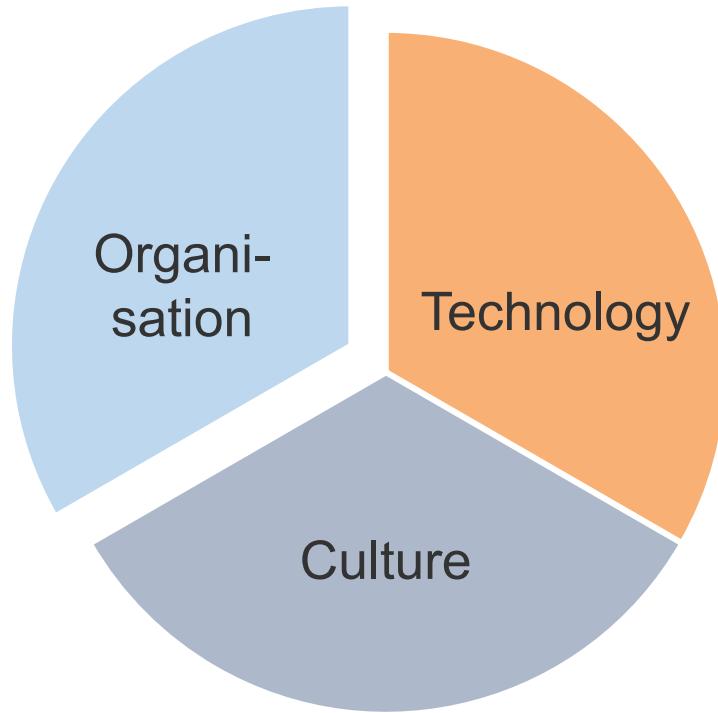
# Factors Influencing the Internal Transfer of Knowledge



- Knowledge sharing culture

Need:  
Management of the knowledge relationships

# Factors Influencing the Internal Transfer of Knowledge

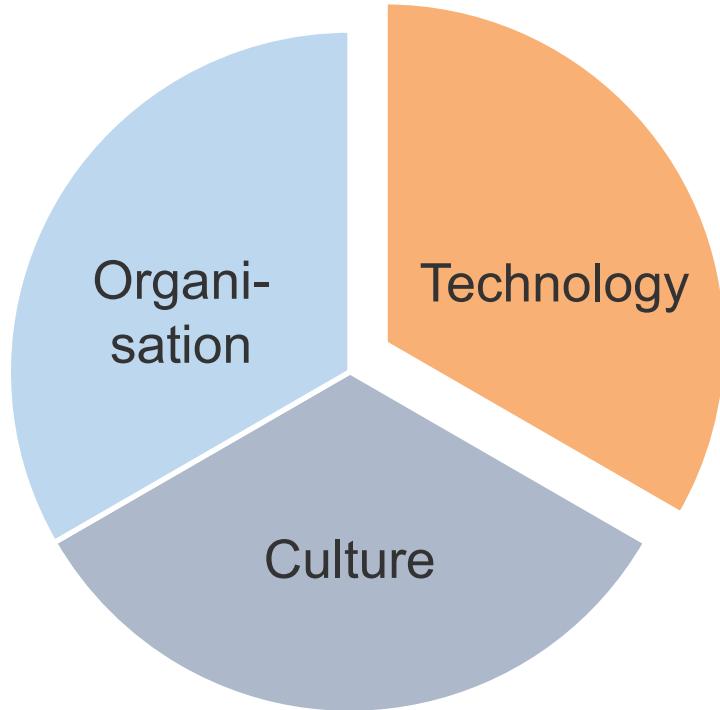


- Knowledge sharing culture
- Focus on external knowledge transfer
- Weak position of knowledge transfer managers

Need:

Strengthened position of internal knowledge managers

# Factors Influencing the Internal Transfer of Knowledge



- Knowledge sharing culture
- Focus on external knowledge transfer
- Weak position of knowledge transfer managers
- Interdisciplinary systems

Need:

Interdisciplinary and easy-to-use knowledge bases

# Research Networking Systems (RNS)



- Primary user group:  
individual researchers
- Purpose:  
Help researchers find collaborators



Silvia Hölzl  
Dr.

Positions -

Publikationen Forschung Kontakt Identität

Selected Publications

Academic Article Filter

Year	Title
2012-11-26	3D @Technische Informationsbibliothek (TIB): Nutzer fragen vermehrt nach effizienten Möglichkeiten zur Suche nach 3D-Daten. <i>PIK - Praxis der Informationsverarbeitung und Kommunikation.</i> 35:241-244. 2012-11-26
2012	3D @Technische Informationsbibliothek (TIB): Das Projekt PROBADO zeigt effiziente Möglichkeiten zur Suche in 3D-Daten. <i>Unimagazin LUH.</i> Ausgabe 1/2-2012:16-19. 2012

2

Arbeitspapier Filter

Year	Title
2018	Towards an Open Research Knowledge Graph 2018

Visualizations

Co-author Network Co-investigator Network

# Harvard Catalyst Profiles RNS

**Keywords**

**Last Name**

**Institution**  
-Select-

**Find People**

**More Search Options**

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**Menu**

About Profiles

Edit My Profile

Manage Profiles

Logout

**Halamka, J is my...**

Collaborate

Advisor (Current)

Advisor (Past)

Advisoree (Current)

Advisoree (Past)

**My Network**

John, Halamka X

Isaac, Kohane X

Kenneth, Mandl X

Shannon, Murphy X

**View details**

**History**

---

**Narrative**

John D. Halamka, MD, MS, is Chief Information Officer of the CareGroup Health System, Chief Information Officer and Dean for Technology at Harvard Medical School, Chairman of the New England Health Electronic Data Interchange Network (eHENL), CEO of MA-SHARE (the Regional Health Information Organization), Chair of the US Healthcare Information Technology Standards Panel (HTSP), and a practicing Emergency Physician.

**Publications**

**List All | Timeline**

- Levine M, Adida P, Mandl K, Kohane I, Halamka J. What are the benefits and risks of fitting patients with radiofrequency identification devices. *PLoS Med*. 2007 Nov 27; 4(11):e322.
- Halamka JD, Mandl KD, Tang PC. Early experiences with personal health records. *J Am Med Inform Assoc*. 2008 Jan-Feb; 15(1):1-7.
- Halamka J, Fournier GA. MA-SHARE MedInfo-ED medication history pilot. *Am J Med Qual*. 2006 Sep-Oct; 21(5):298-8.
- Halamka J, Juels A, Stubblefield A, Westraheus J. The security implications of VeriChip cloning. *J Am Med Inform Assoc*. 2006 Dec; 13(0):601-2.
- Halamka J. Doctors should have to opt out of national electronic care records: AGAINST. *BMJ*. 2006 Jul 1; 333(7557):41-2.
- Halamka J. On the road to RHIOs. *Health Manag Technol*. 2008 Jun; 27(6):8, 10.

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**Concepts** (1)

Medical Records Systems, Computerized Medical Record Linkage Patent Identification Systems Computer Security Regional Medical Programs See all (126) concepts

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**Co-Authors** (1)

Kohane, Isaac  
Mandl, Kenneth  
Rind, David  
Safar, Charles  
Star, Thomas  
See all (13) people

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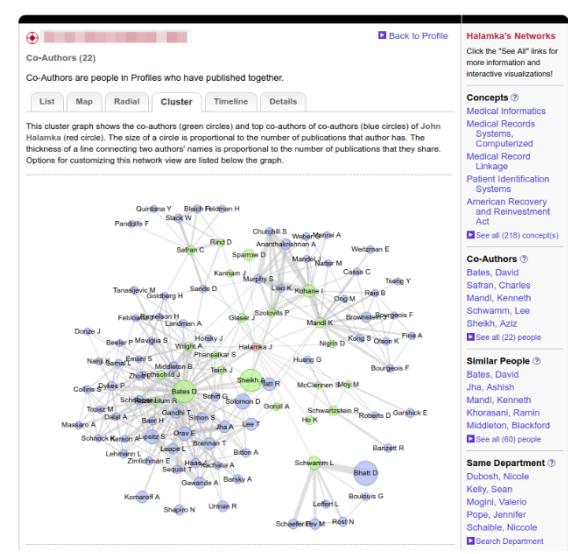
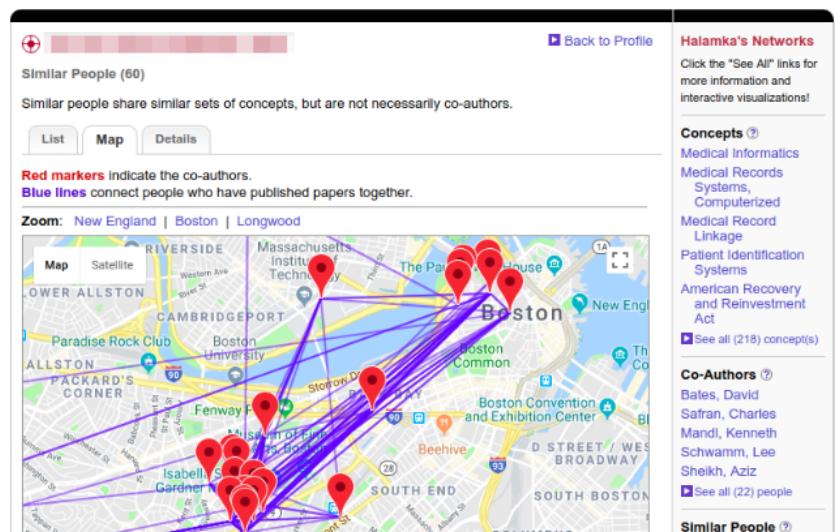
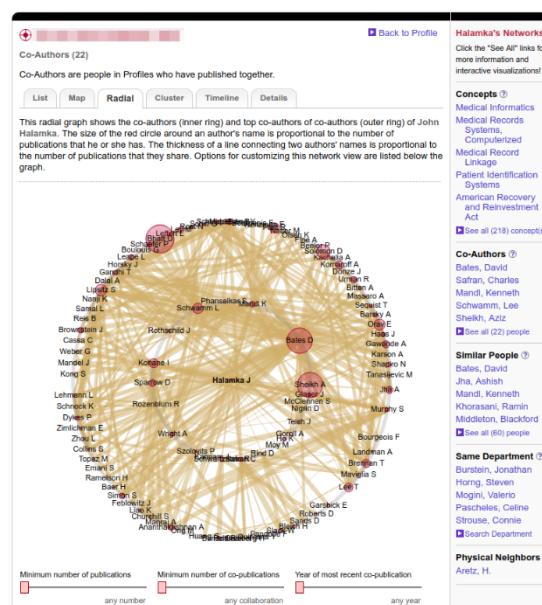
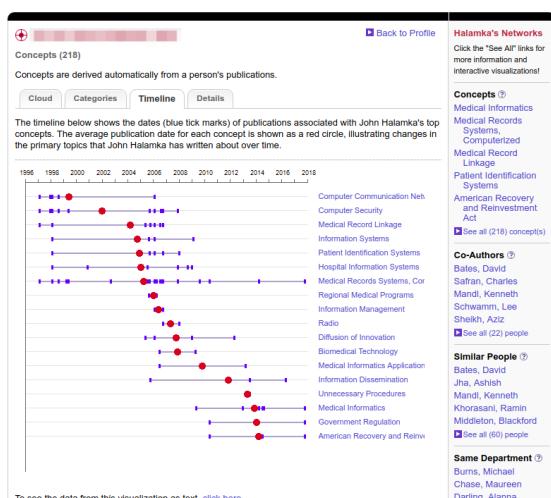
**Similar People** (1)

Middleton, Bradford  
Safar, Charles  
Kohane, Isaac  
Mandl, Kenneth  
Bergeron, Bryan  
See all (60) people

---

**Same Department** (1)

Burstein, Jonathan  
Corgan, Kelly  
Edlow, Jonathan  
McGillivray, Daniel  
Kishimoto, Steven





1

**Limited insights** due to being based on a narrow set of data sources (basic personal information; bibliographic data)

2

Only **explicit information**; discovering implicit relationships in the data is time-intensive and requires cognitive effort

3

**Self-service repository model** that assumes knowledge transfer by mere publication of data



1

Go beyond what current RNS are offering  
→ Integrate data from different sources and interview researchers



1

Go beyond what current RNS are offering  
→ Integrate data from different sources and interview researchers

2

Materialize the implicit opportunities for internal knowledge transfer → Augment the system with reasoning capabilities



1

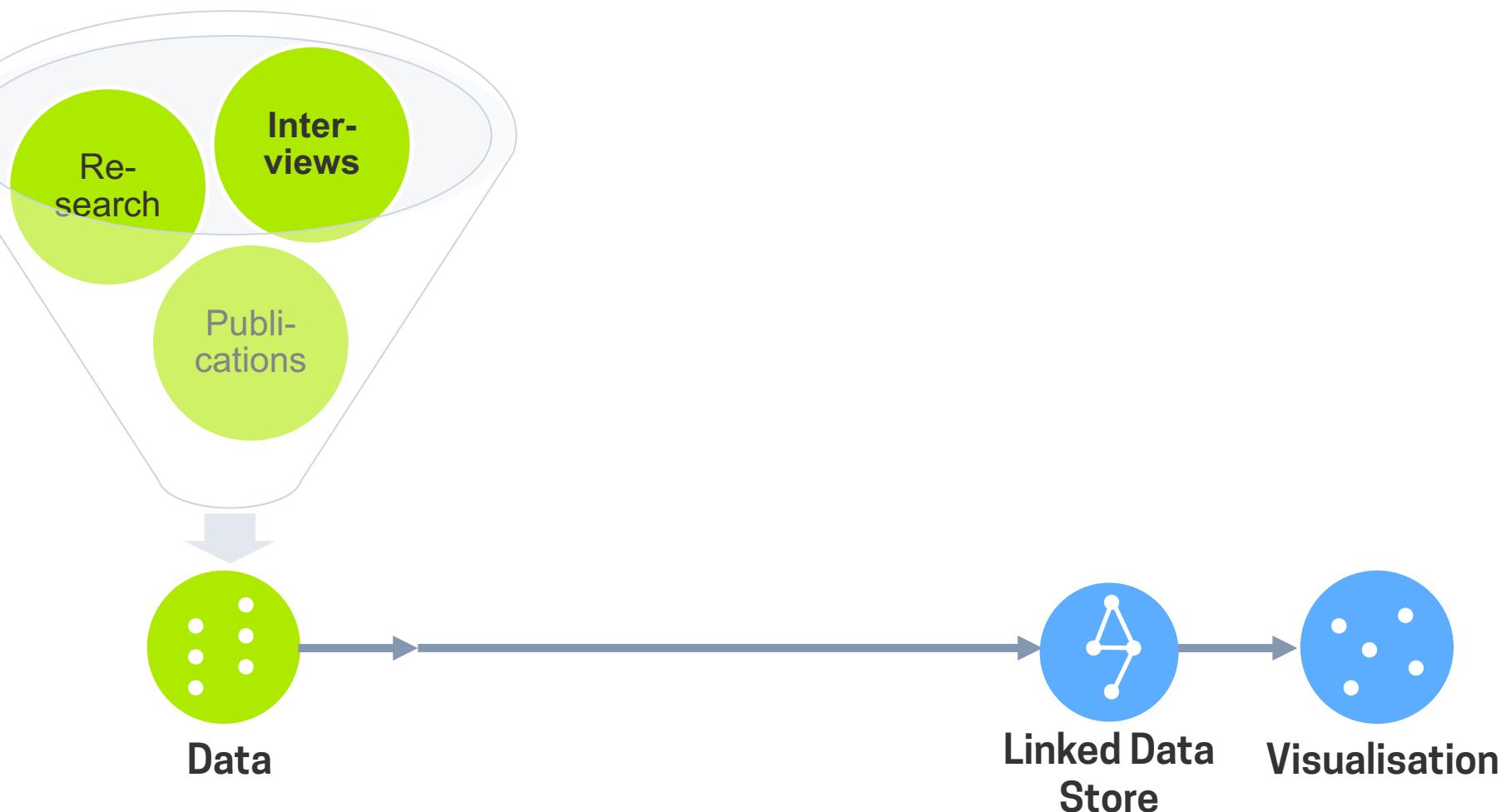
Go beyond what current RNS are offering  
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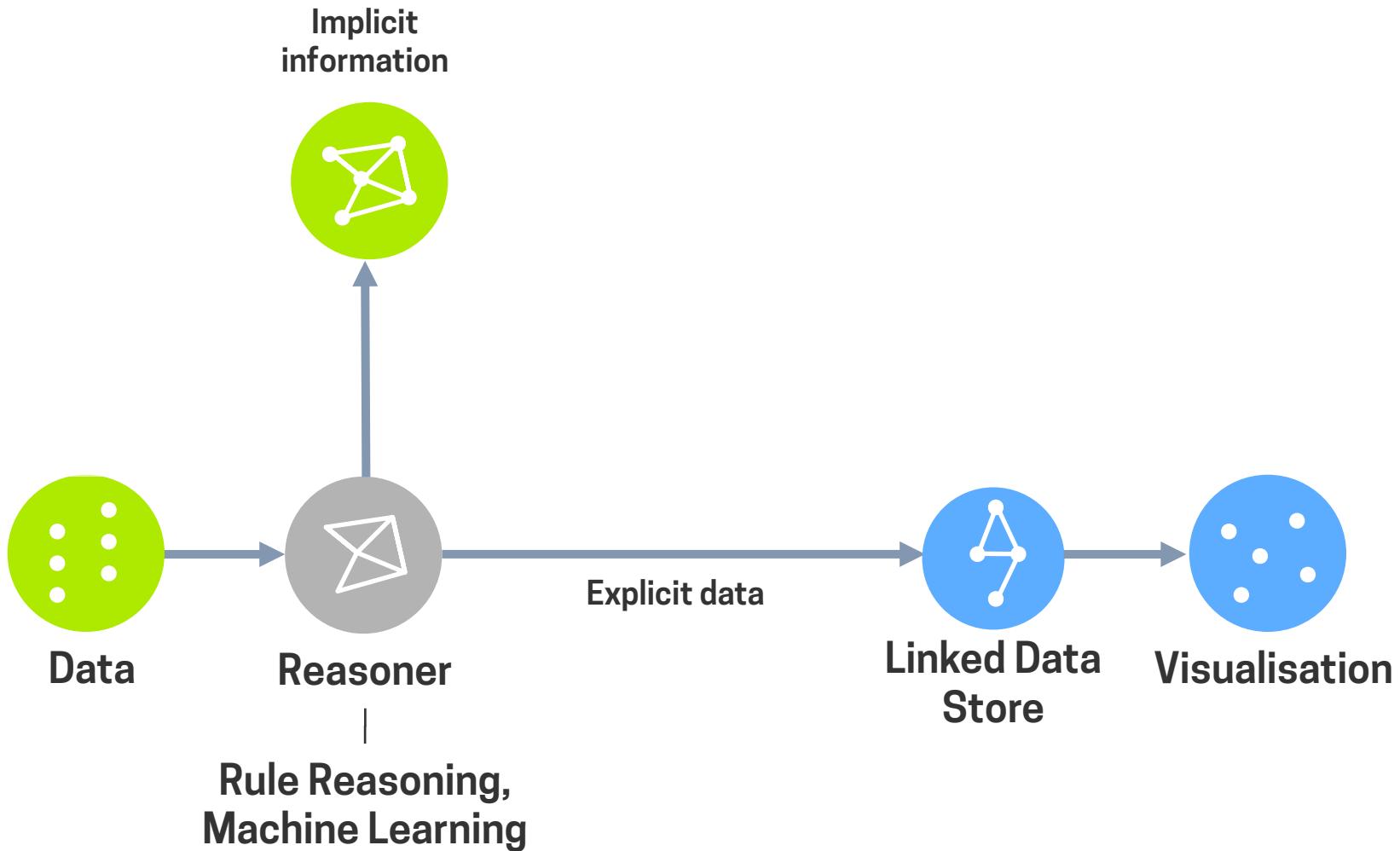
2

Materialize the implicit opportunities for internal knowledge transfer → Augment the system with reasoning capabilities

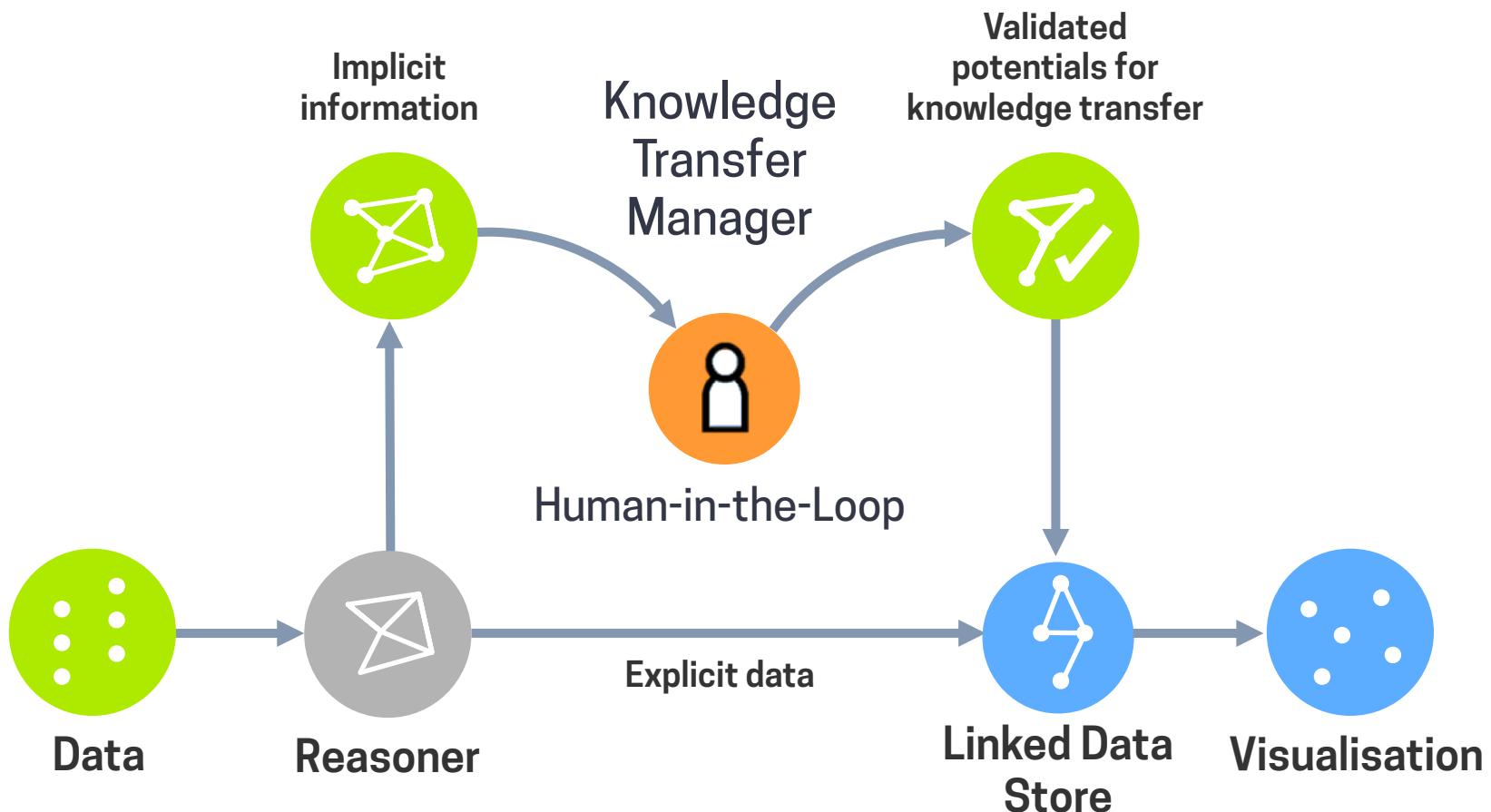
3

Support the management of internal knowledge transfer → Establish a dedicated Knowledge Transfer Manager position

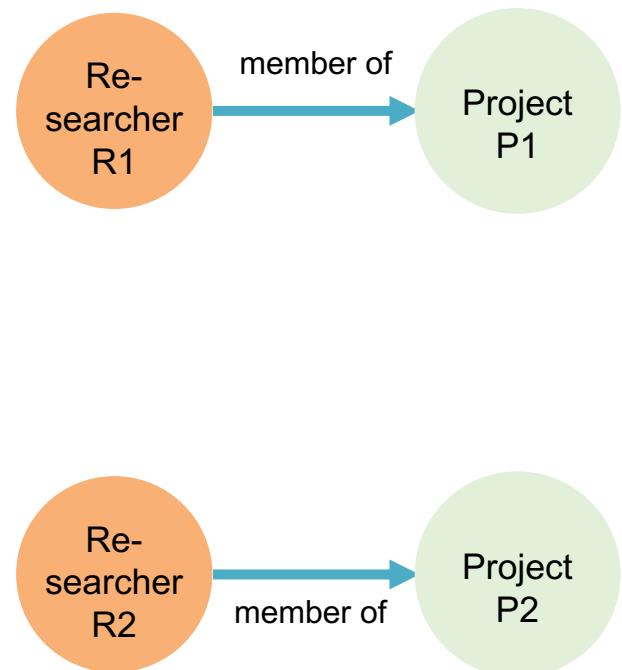




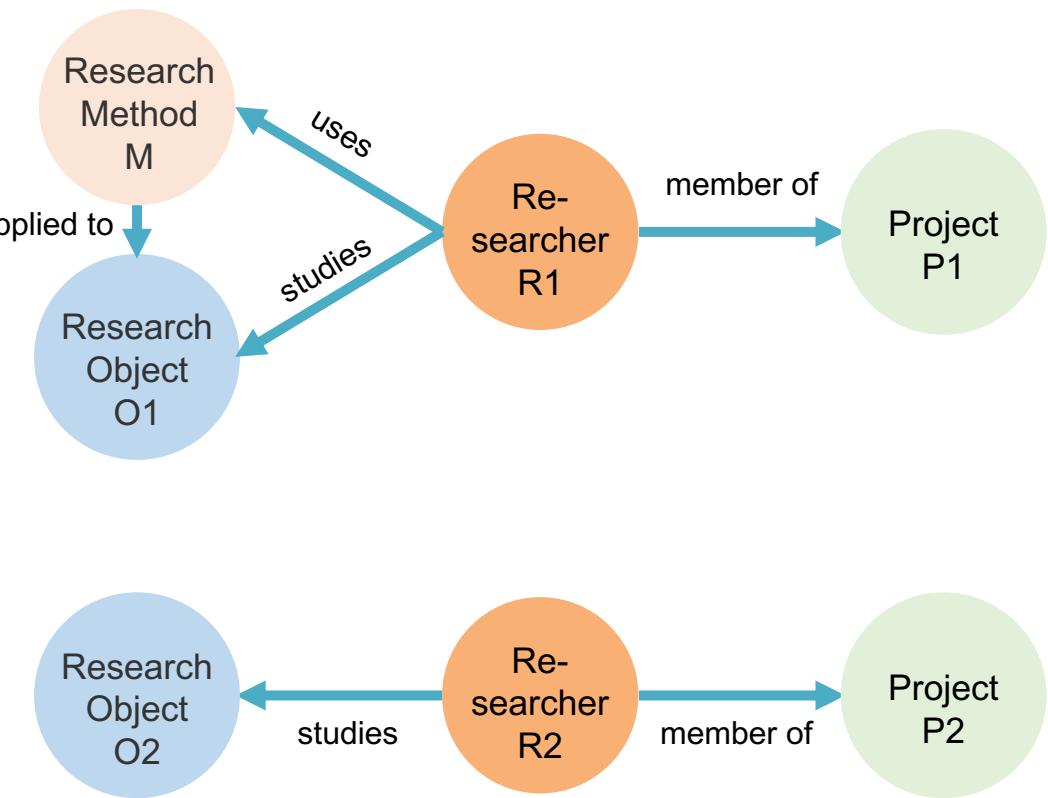
# Management of Knowledge Transfer



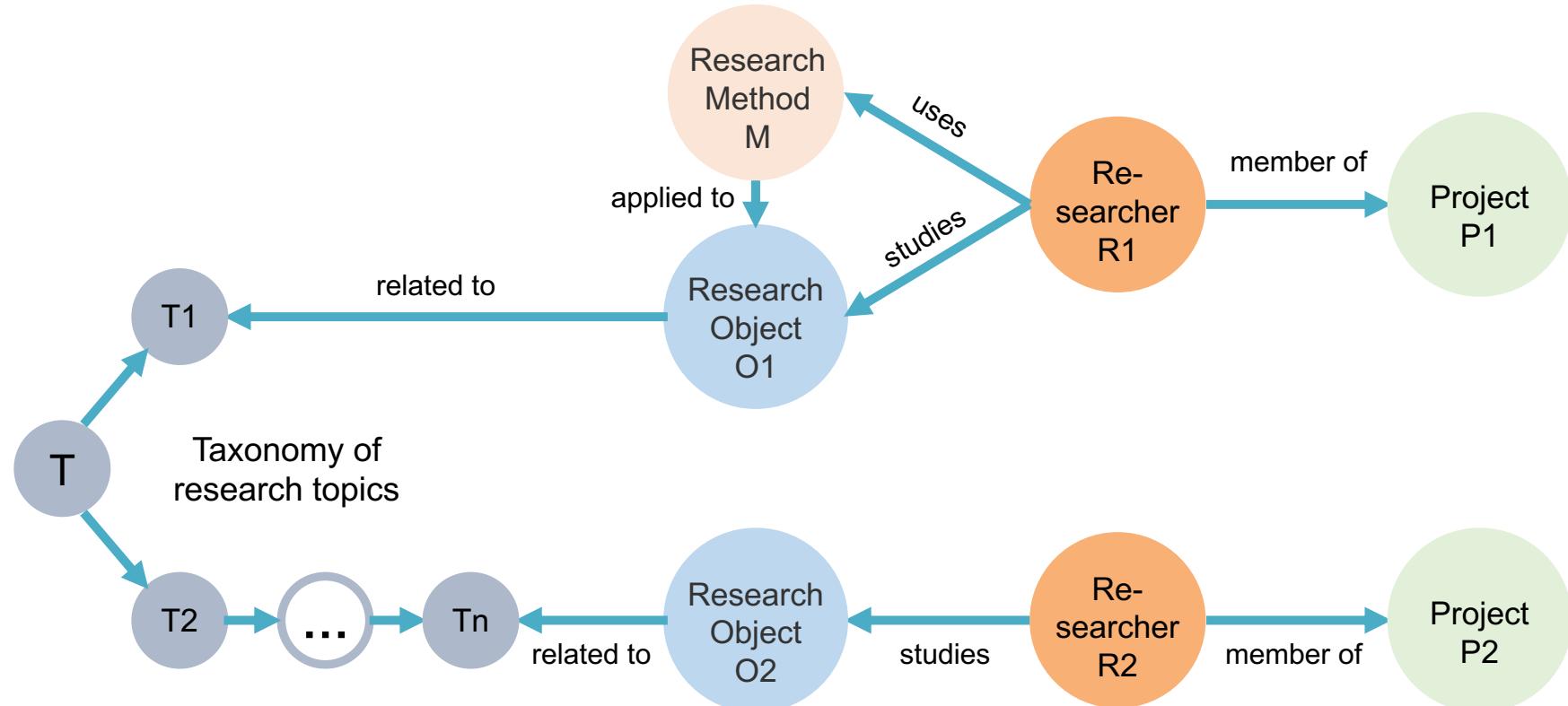
# Knowledge Transfer Example



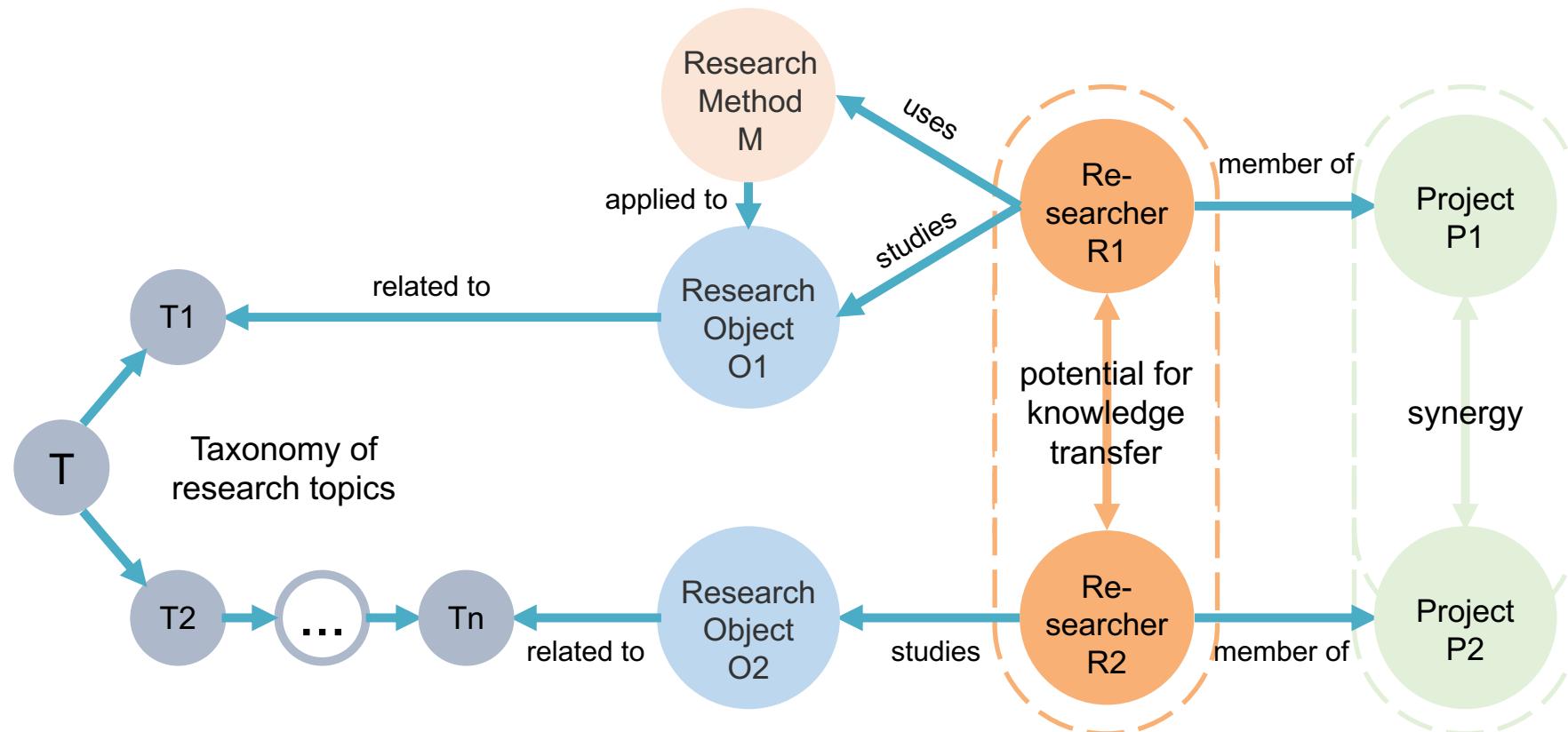
# Knowledge Transfer Example



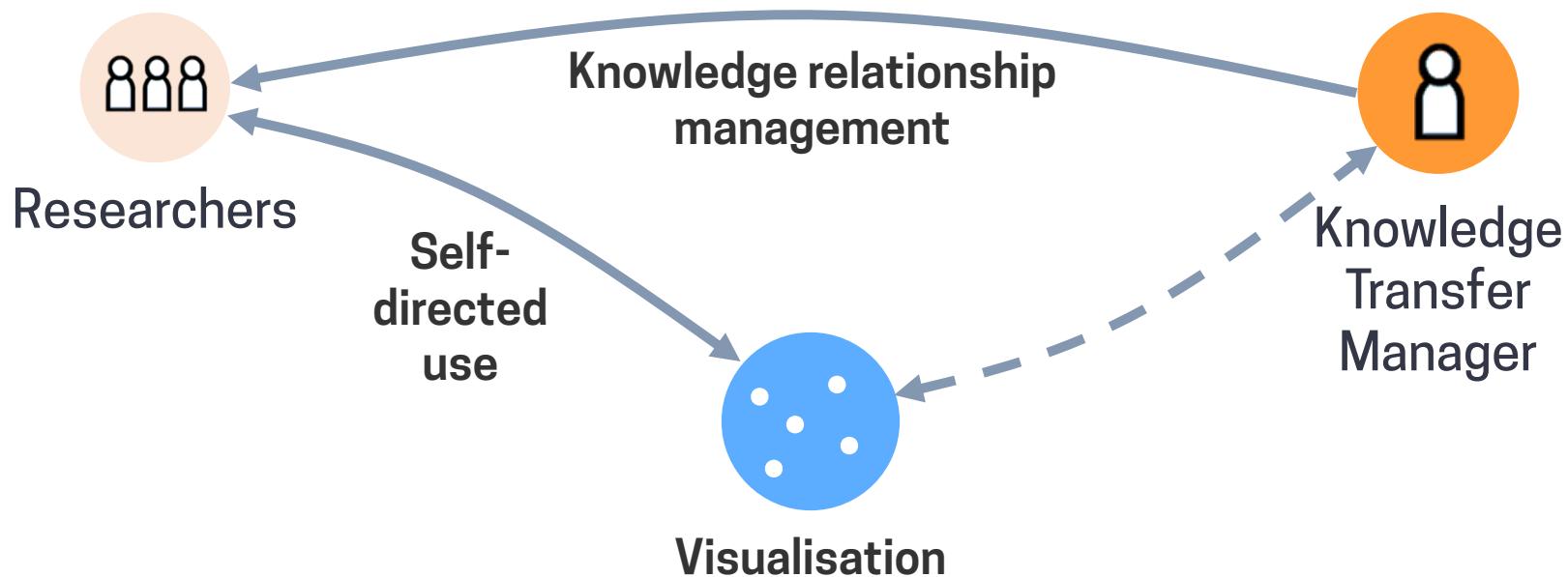
# Knowledge Transfer Example



# Knowledge Transfer Example



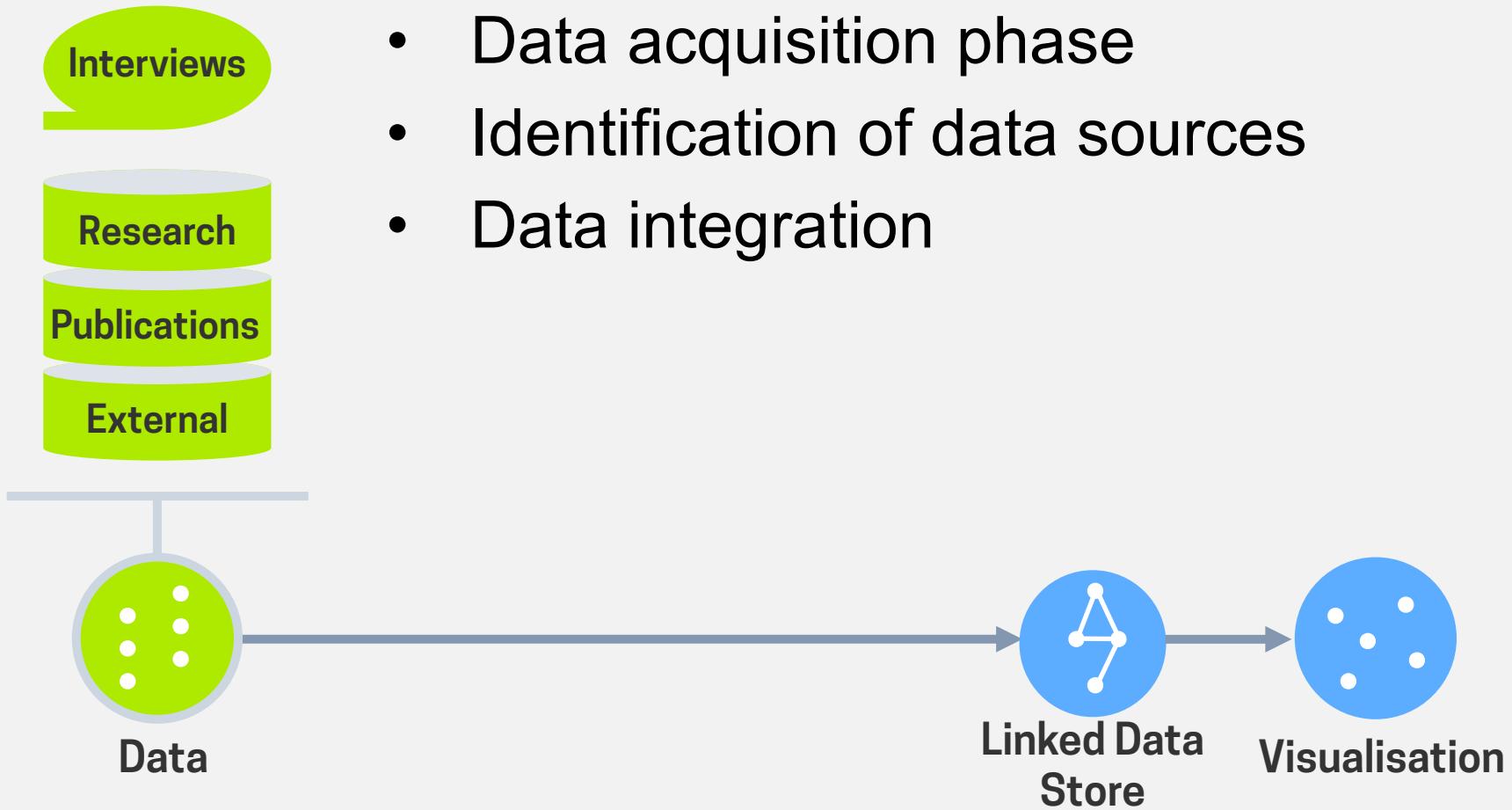
# Hybrid Approach



# Current State of Project



# Current State of Project (1/3)



# Current State of Project (2/3)



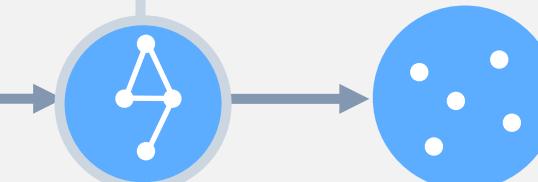
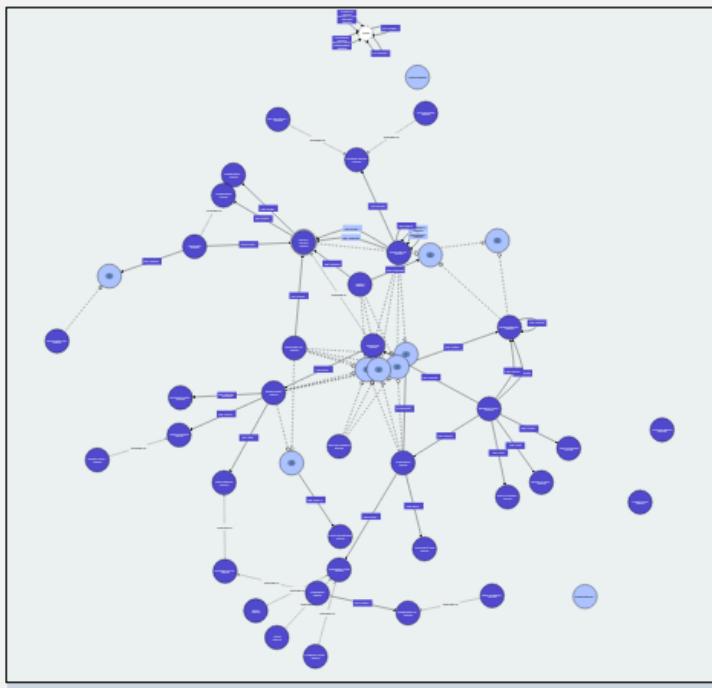
## Ontology

Basis: Research Core Dataset\*

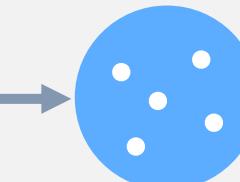
<https://fub-hcc.github.io/IKON-ontology>



Data



Linked Data  
Store

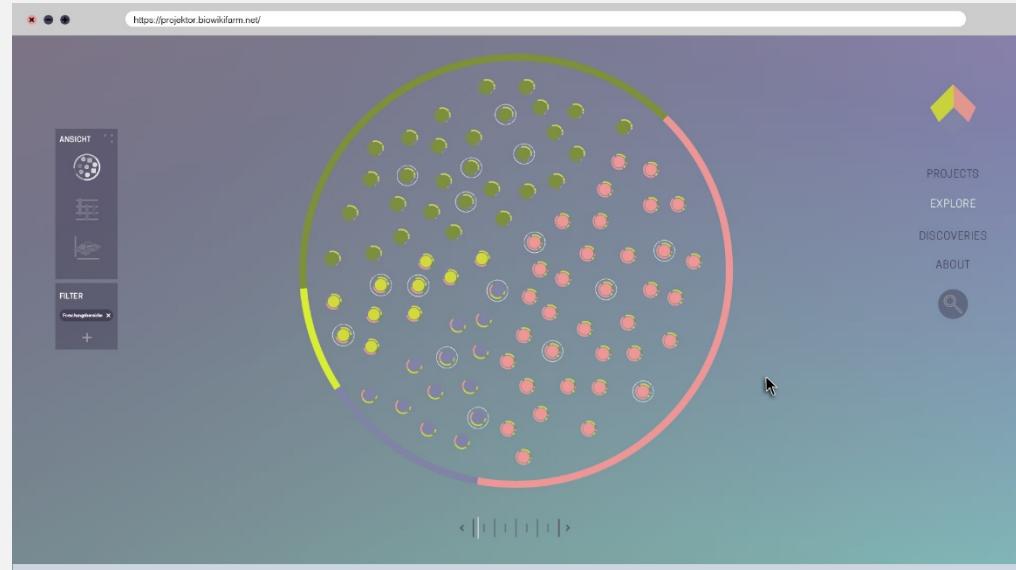


Visualisation

# Current State of Project (3/3)



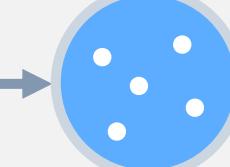
Design and implementation of visualisation



Data



Linked Data Store



Visualisation

# Next Steps

Implementation at Research Museum of Natural History, Berlin, Leibniz Institute for Evolution and Biodiversity Science

web application &  
65" multi-touch display



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## Questions



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p. 2



p. 3



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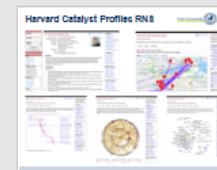
p. 8



p. 9



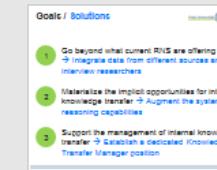
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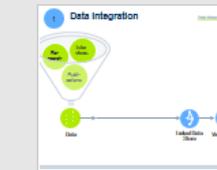
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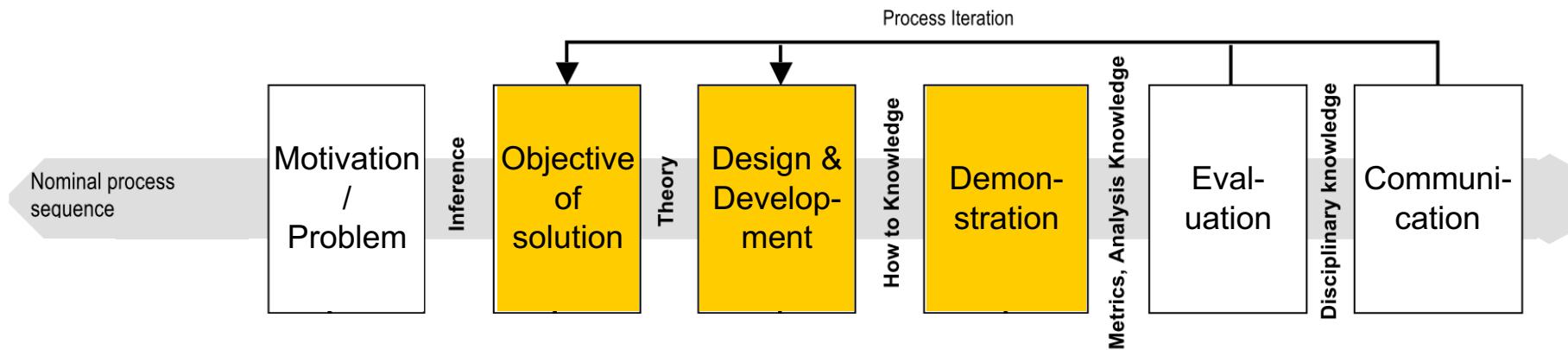
p. 27



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## Design Science



- Quantitative and qualitative
  - Web analytics
  - Usability testing
  - Pre- and post implementation surveys
  - Interviews with researchers, administration staff and managers
- Comparison with similar visualisations, e.g.
  - Data Monolith (EPFL)
  - Max Planck Research Networks (MPI)
  - Harvard Catalyst Profiles
  - VIVO
  - ...