



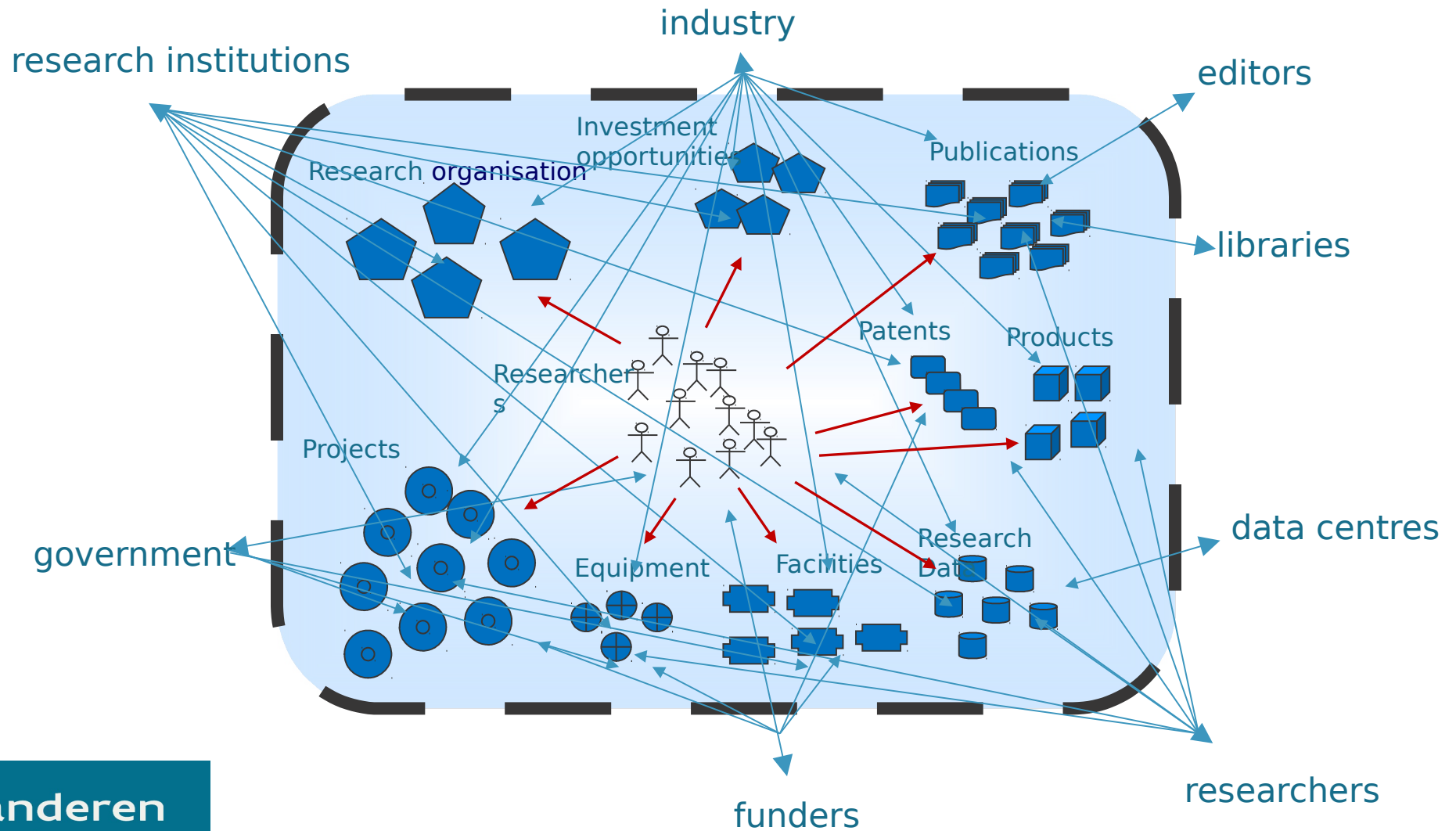
Vlaanderen
is economie,
wetenschap & innovatie

Research Information in Open Data Context

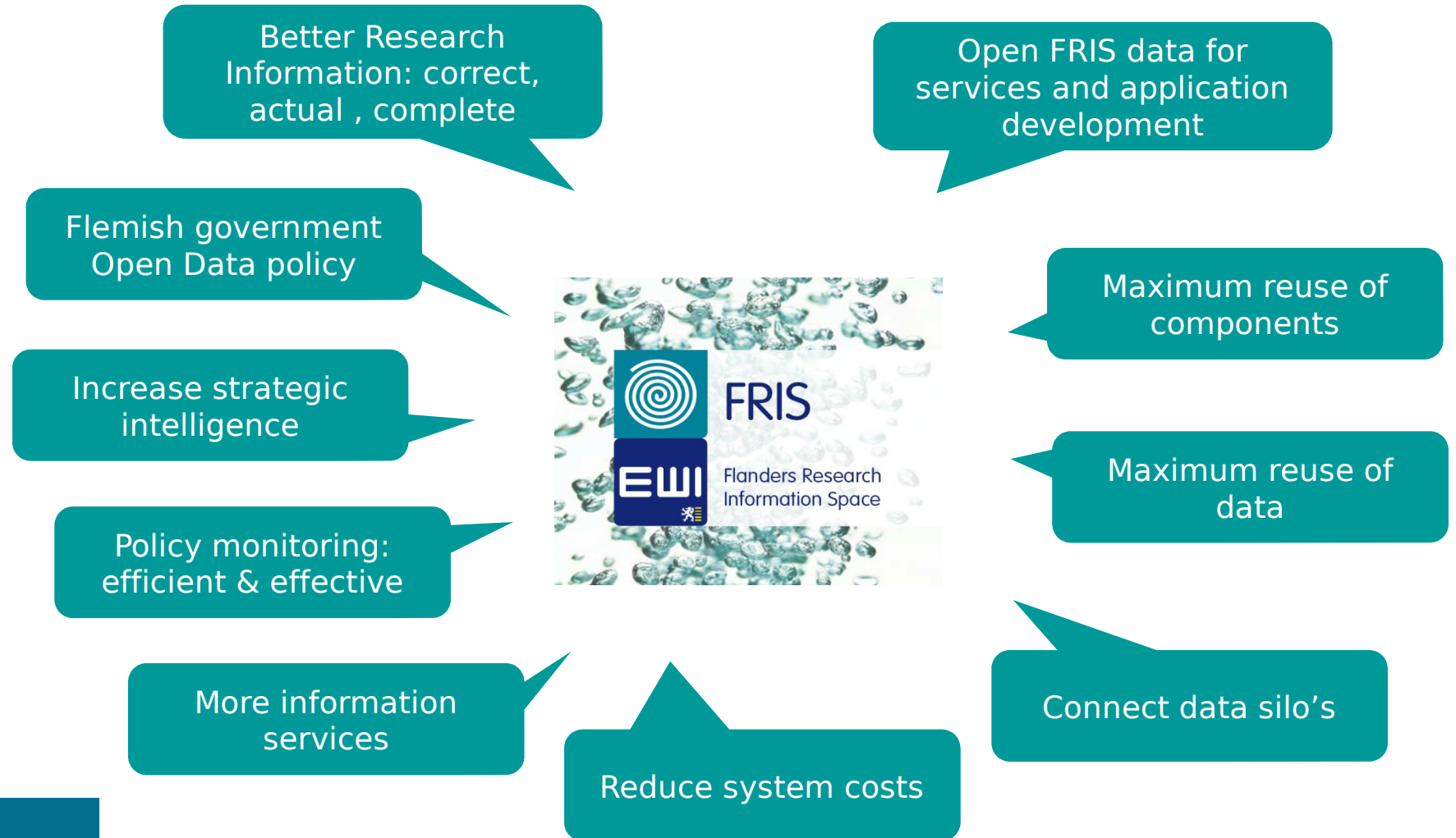
Geert Van Grootel
Senior Researcher
Economy, Science and Innovation department
Flemish government

Foster seminar, Brussel June 4, 2015
geert.vangrootel@ewi.vlaanderen.be

Flanders Research Information Space



FRIS Needs & drivers



The Information Providers Landscape

Universities



University Colleges



Strategic Research Centers



Research Institutes



Funding Agencies



Others



Open Access to Research Information

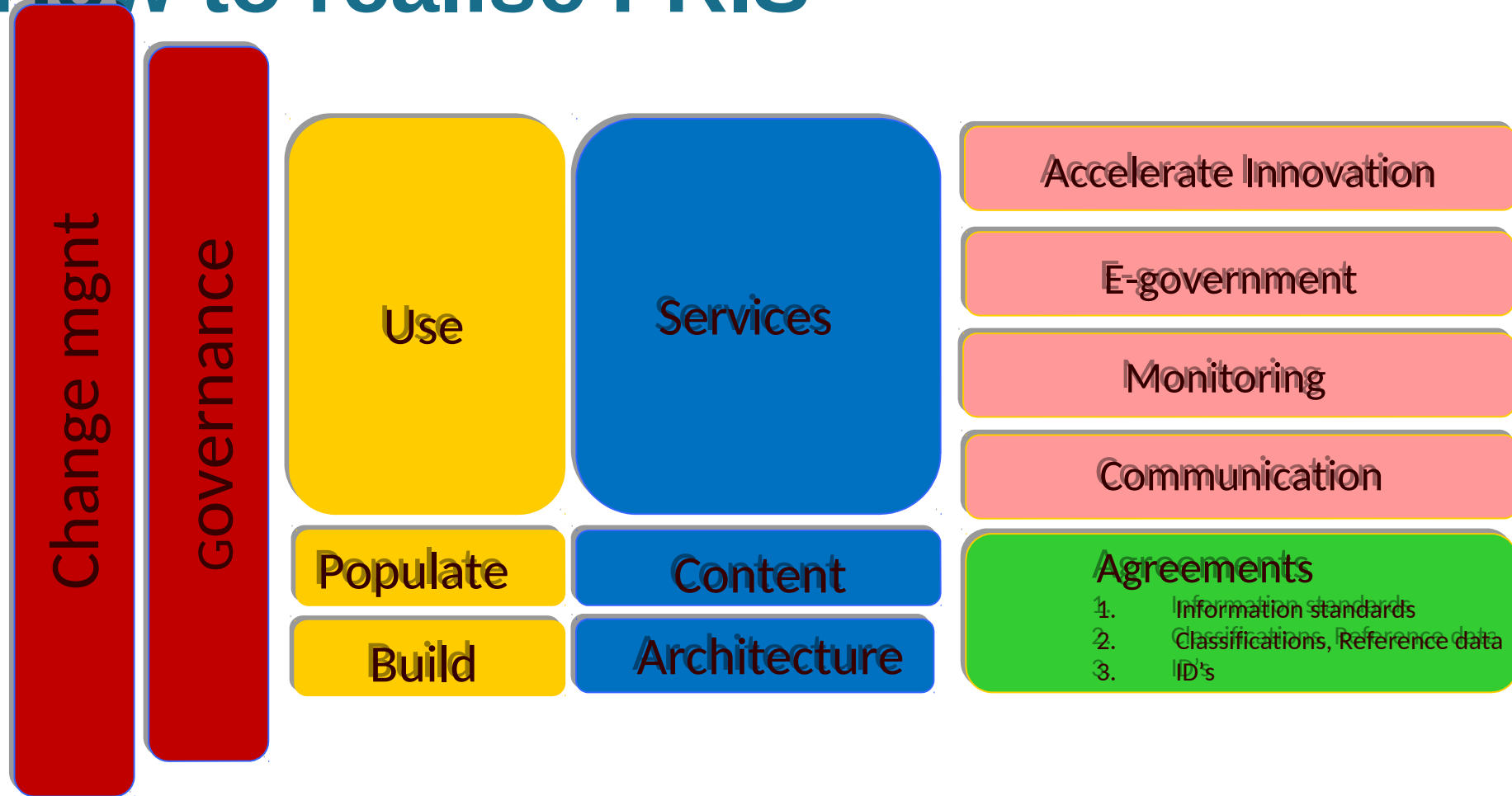
- International tendency to move to Open Access to Research output.
 - European Commission Communication ([IP/12/790](#)) identified open access as a core means to improve knowledge circulation and thus innovation in Europe.
 - Open Access mandatory for all scientific publications produced with funding from Horizon 2020
 - Member states should endorse a similar approach for their domestic research funding schemes.

The Challenge

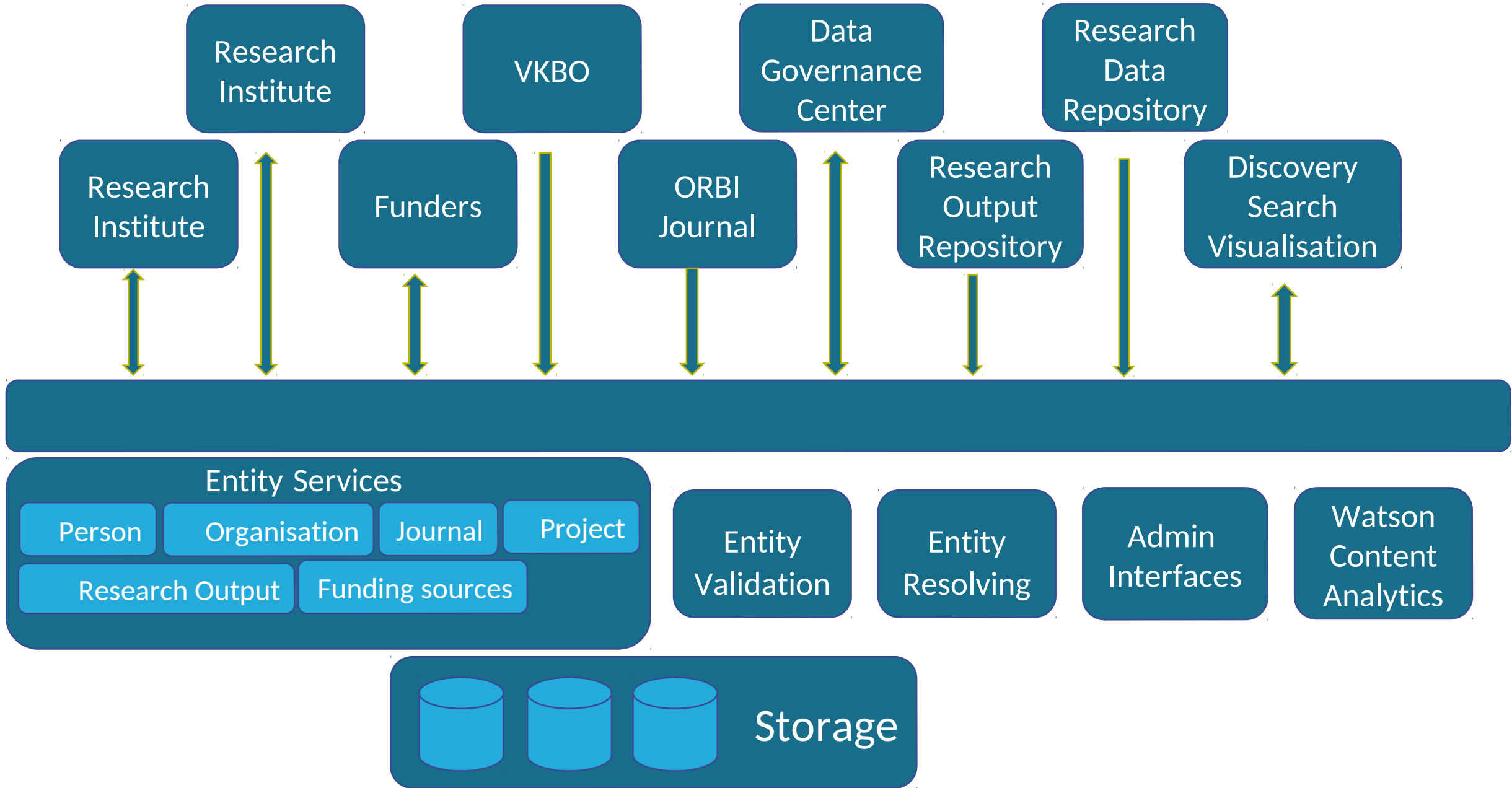
- Information integration from sources with large difference
 - Scope:
 - research
 - education
 - data centre's
 - services
 - Scale:
 - 8 to >6.600 researchers
 - Internal integration maturity
 - Application silo's
 - HR
 - Finance
 - Asset management
 - The library silo
 - ERP
 - CRIS System
 - Organisation culture
 - ...

- Implementation of FRIS information principles and policy
 - Information quality
 - Completeness
 - Accurate
 - Timeliness
 - Information
 - Integrated
 - 360° view on all information dimensions
 - Open

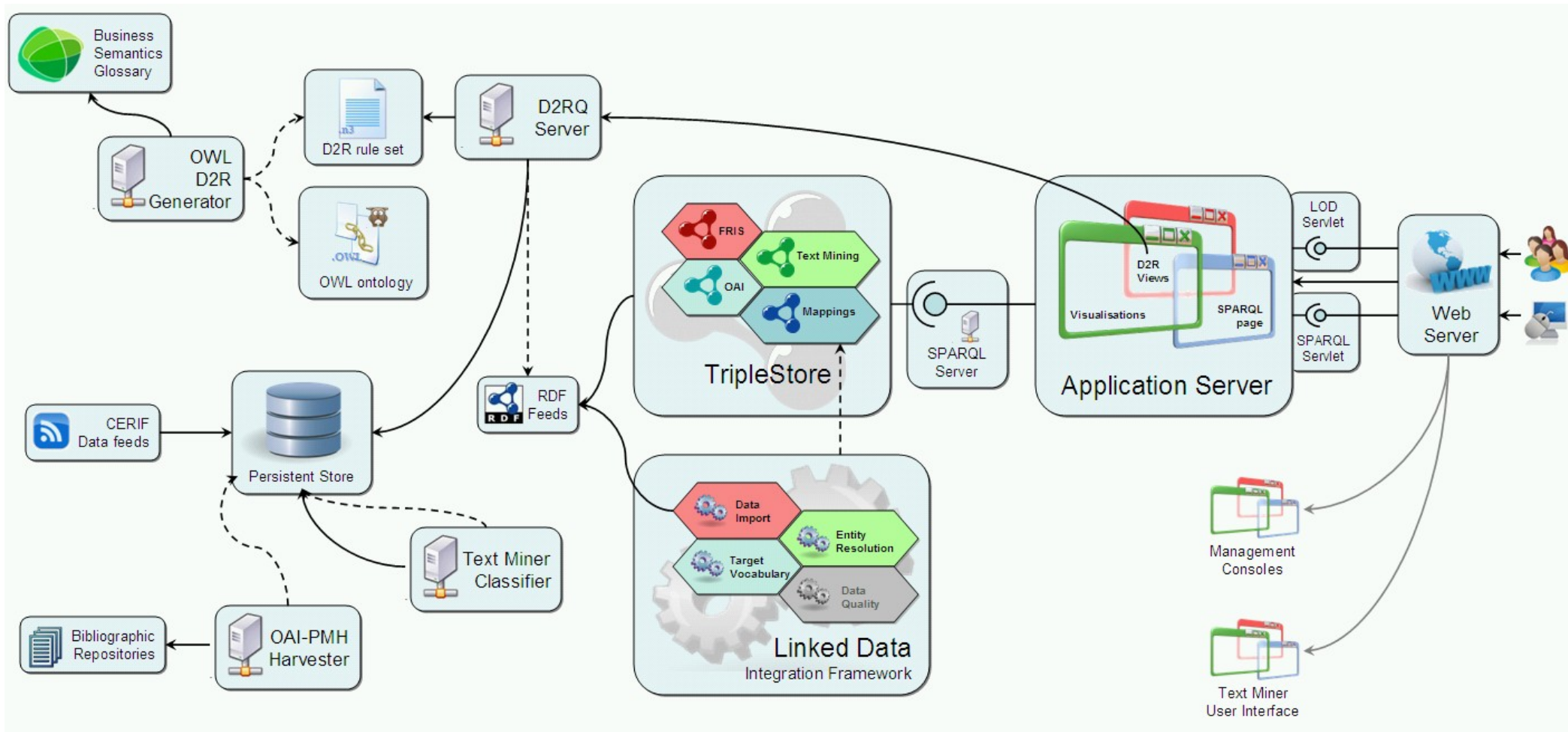
How to realise FRIS



FRIS Architecture Story



Linked Open Data IT architecture



Information extraction form



Ultrafast Non-inverting Wavelength Conversion by Cross-Absorption Modulation in Silicon Wire Waveguides

L.R. Nunes¹, T.K. Liang¹, H.K. Tsang², M. Tsuchiya¹, D. Van Thourhout³, P. Dumon³, and R. Baets³

1: NICT – National Institute of Information and Communications Technology, Tokyo, Japan.

2: The Chinese University of Hong Kong, N.T., Hong Kong

3: Ghent University - IMEC, Department of Information Technology (INTEC), Gent, Belgium

e-mail: nunes@nict.go.jp

Abstract We demonstrate all-optical wavelength conversion by means of cross absorption effect induced by Two Photon Absorption (TPA) in submicron sized Si wire waveguides. Optical pulses of 1.6 ps at 1GHz repetition rate were successfully converted from 1550nm to 1532nm. We discuss the performance at higher speed. Our results showed that silicon waveguides have potential applications in high speed photonic signal processing.

Introduction

The high index difference ($\Delta > 41\%$) in silicon-on-insulator (SOI) platforms allows the realization of submicron size single mode planar waveguides [1]. Due to the high confinement of optical fields in such waveguides, ultra-high optical intensity can be easily achieved with input optical powers typically used in telecommunications. The high optical intensities in long interaction lengths may lead to the manifestation of different nonlinear optical effects. Recently, different nonlinear applications in silicon waveguides have been reported in the literature, e.g. Stimulated Raman Scattering amplification-lasing [2], and wavelength conversion by cross phase modulation [3] among others.

Experiments

Figure 1 shows the dimensions of the silicon wire waveguide used in the experiment. The fabrication and characterization of the waveguide was described in [8]. The waveguide is 10mm in length, formed in spiral to fit in a very small footprint area. The waveguide core is formed by a silicon strip measuring 480 nm in width and 220 nm in height. The buried oxide (BOX) layer is 1 μm .

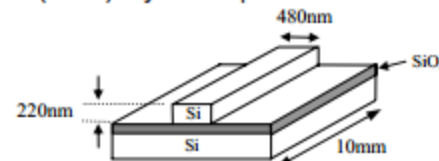
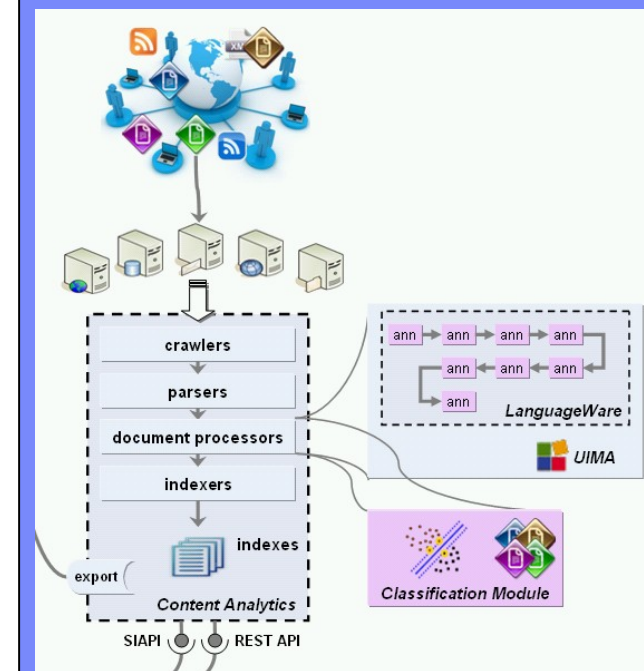


Fig. 1 Silicon wire waveguide dimensions

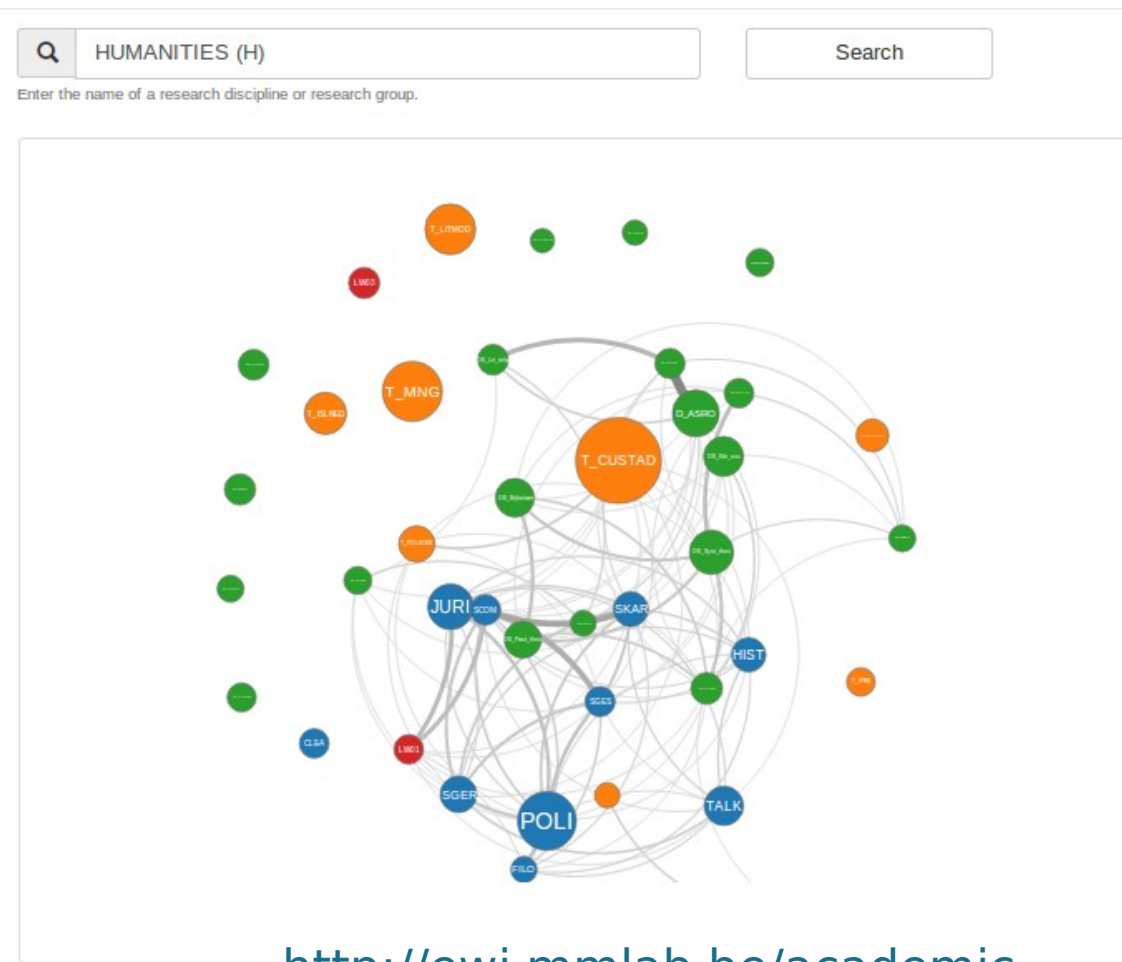
Author

ORGANIZATION

IBM Content Analytics



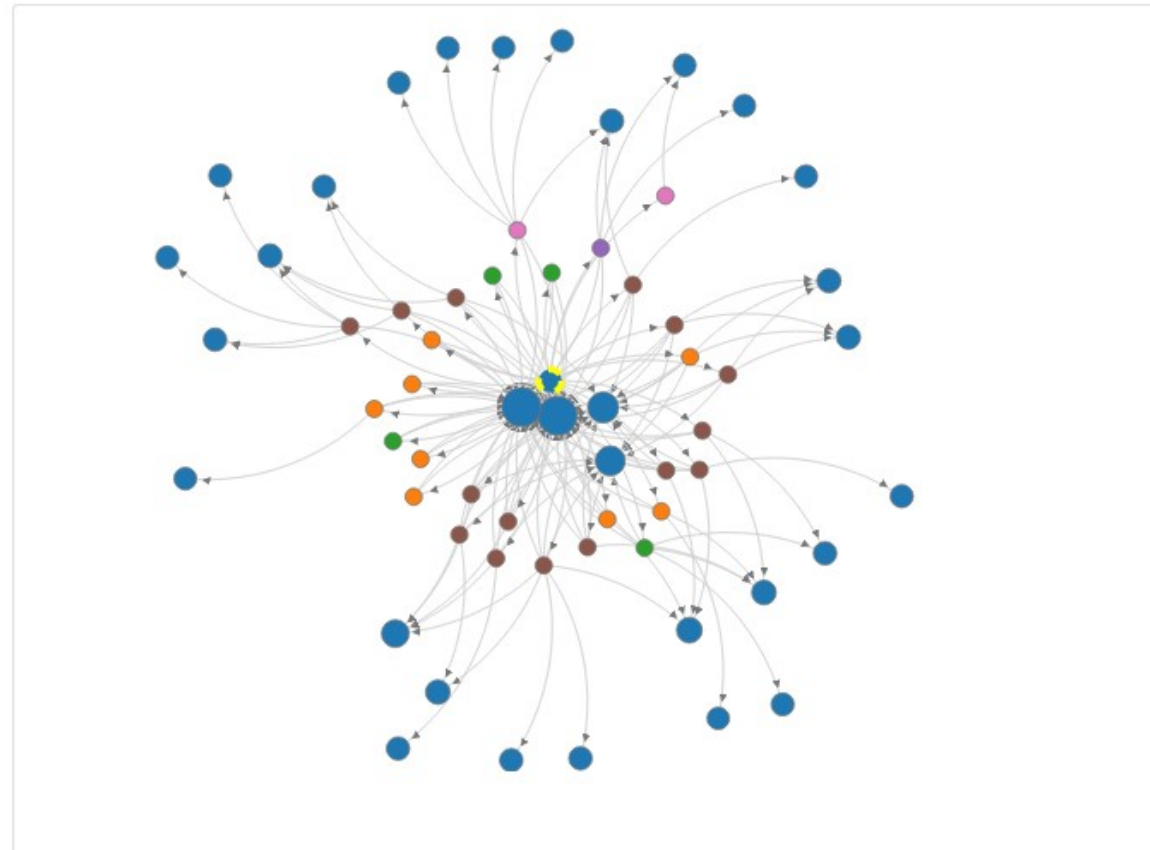
Visual representations for Linked Open Data Communities of practice in a discipline



Visual representations for Linked Open Data Research Networks around a researcher

Q Sam Coppens

Use one search bar to visualize the entity's community of practice.



<http://ewi.mmlab.be/academic>