Visualizing science based on open data sources

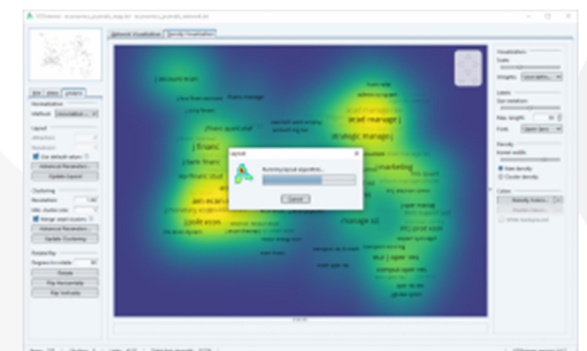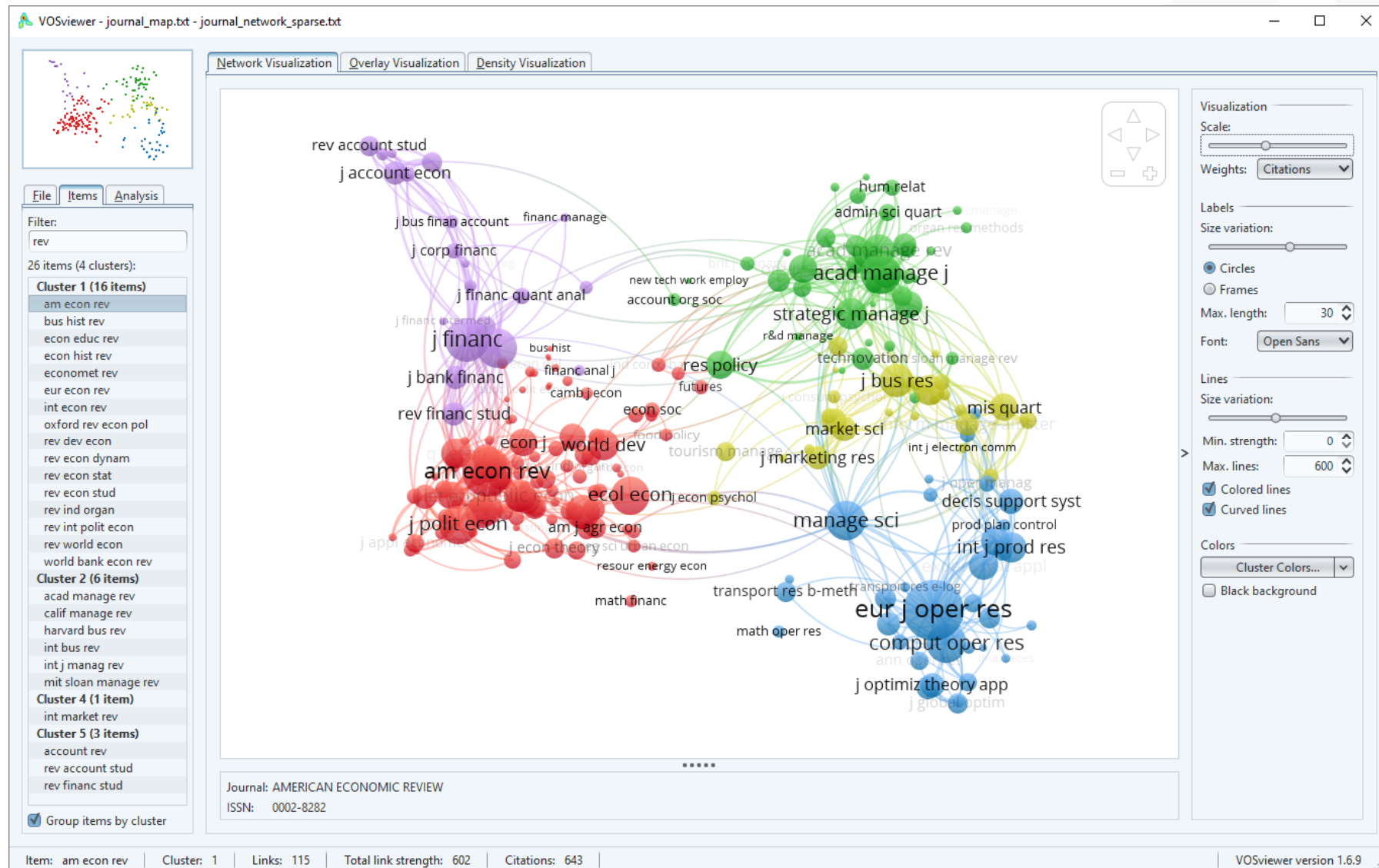**Nees Jan van Eck and Ludo Waltman**

Centre for Science and Technology Studies (CWTS), Leiden University
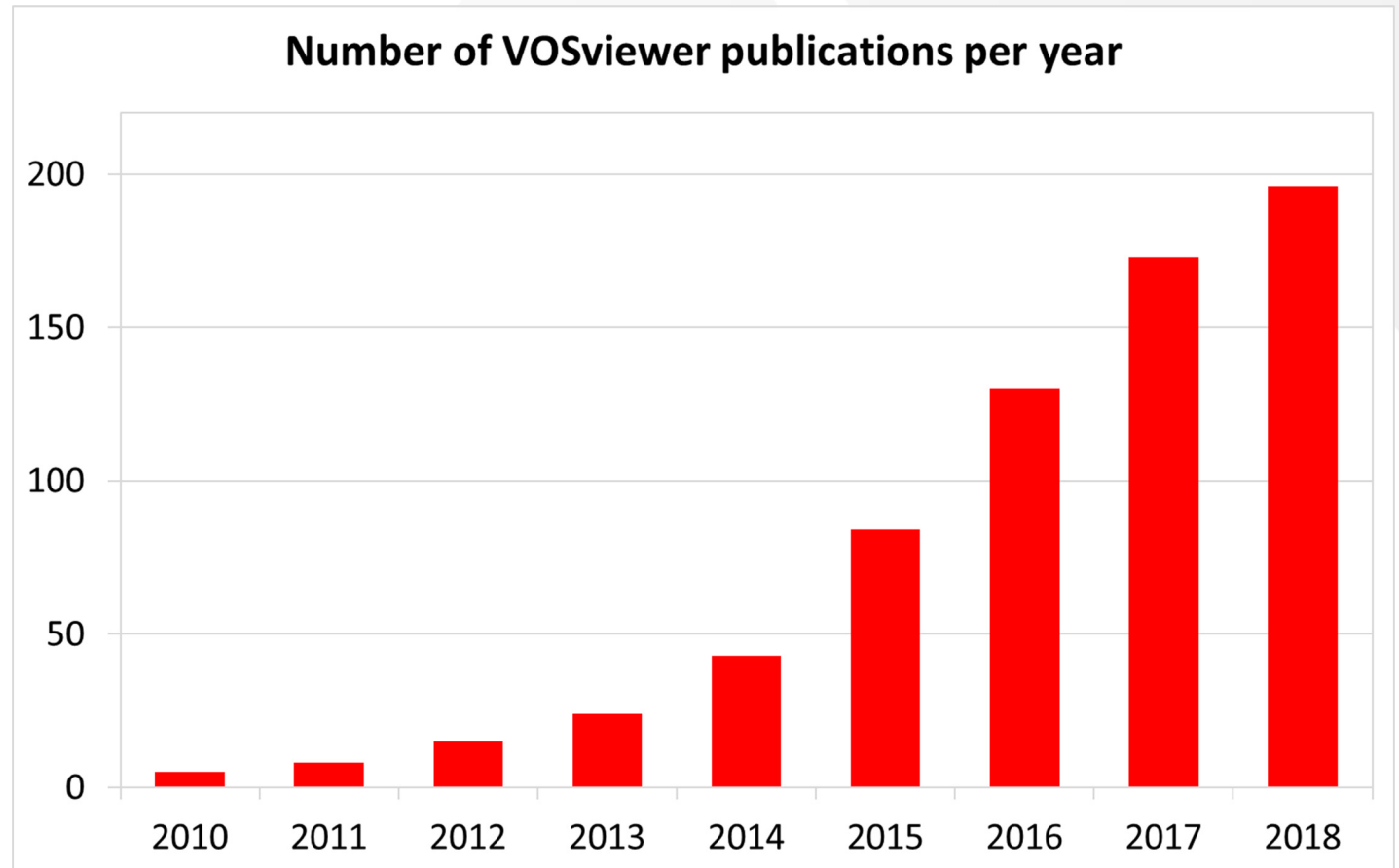
Workshop on Open Citations

Bologna

September 4, 2018

VOSviewer

Users of VOSviewer

- Researchers
- Research institutions
- Research funders
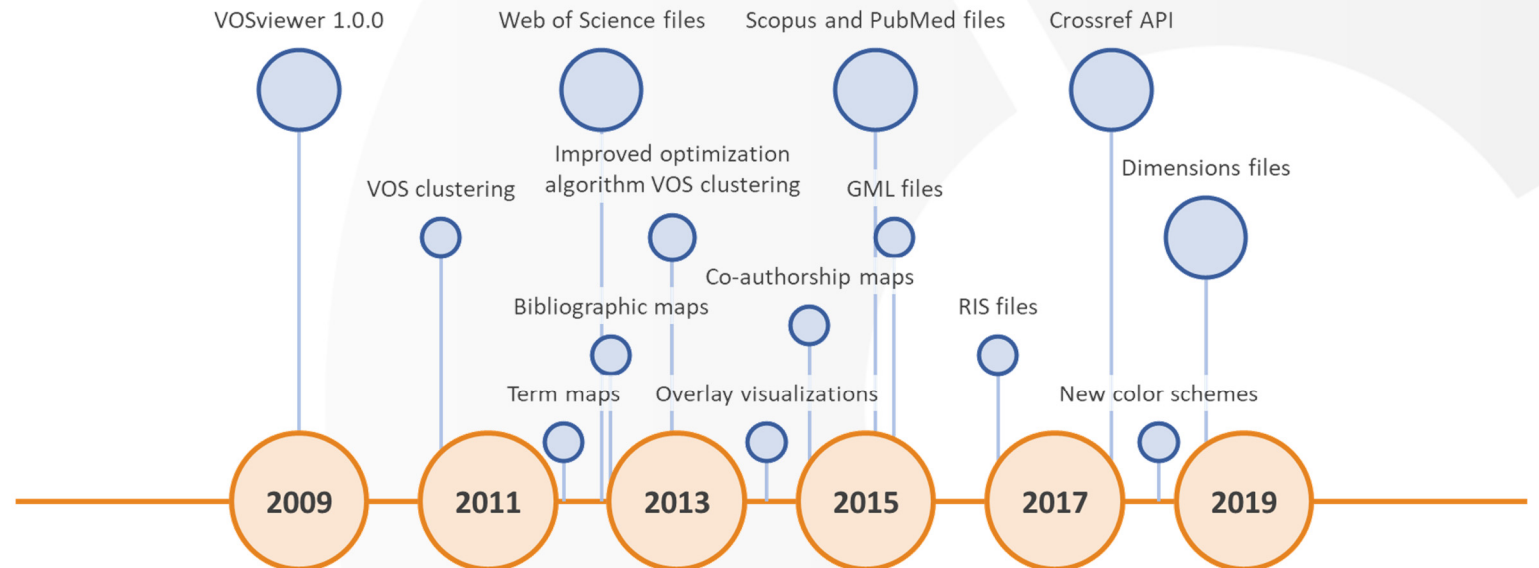- Scientific publishers
- Industry

Number of VOSviewer publications per year

CWTS

Data sources supported by VOSviewer

Bibliometric networks

Bibliographic data source

WoS
Scopus
Dimensions
PubMed
Crossref

Citation network
of pubs / journals / authors / orgs / countries

Co-authorship network
of authors / orgs / countries

Co-citation network
of pubs / journals / authors / orgs / countries

Bibliographic coupling network
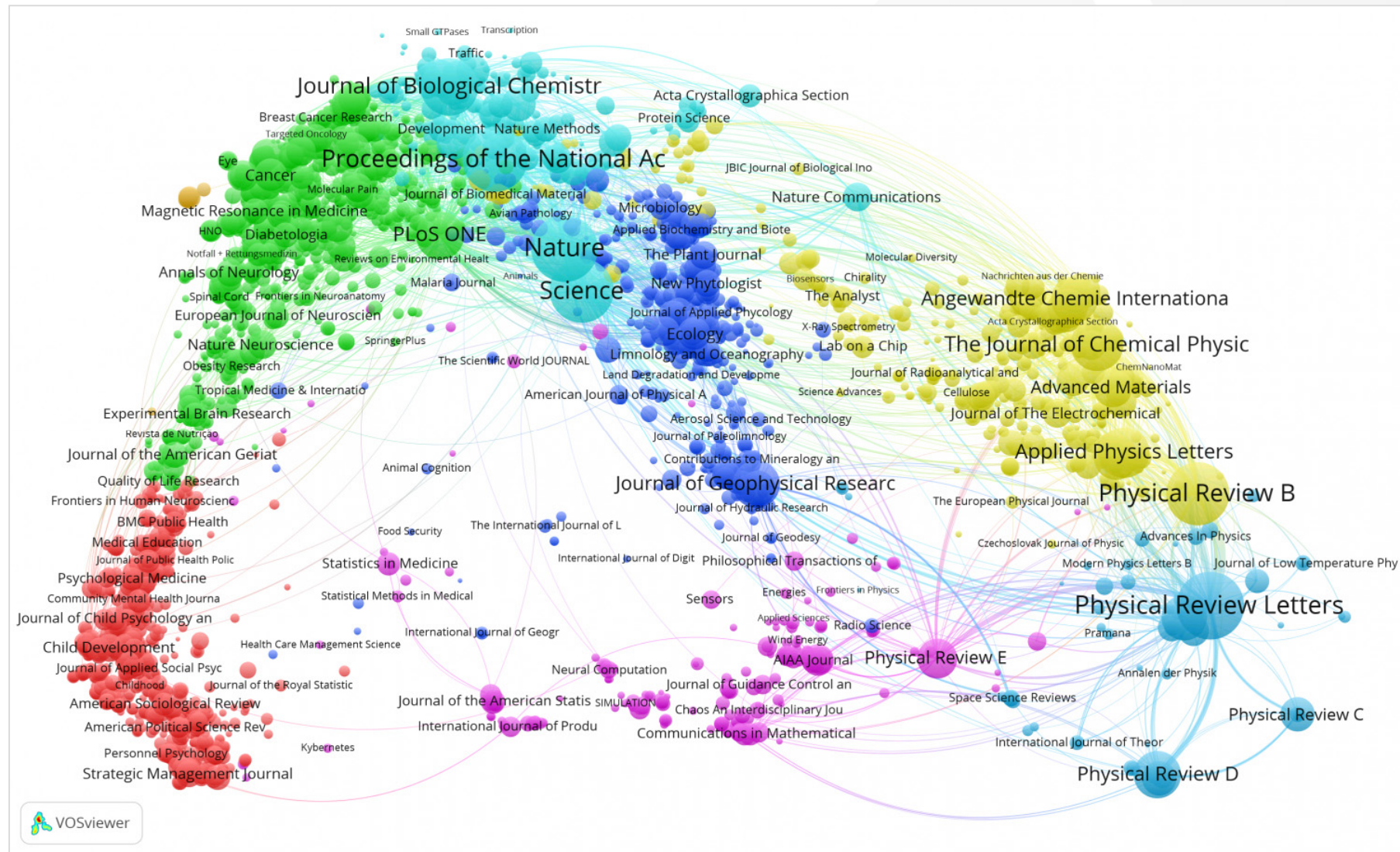of pubs / journals / authors

Co-occurrence network
of keywords / terms

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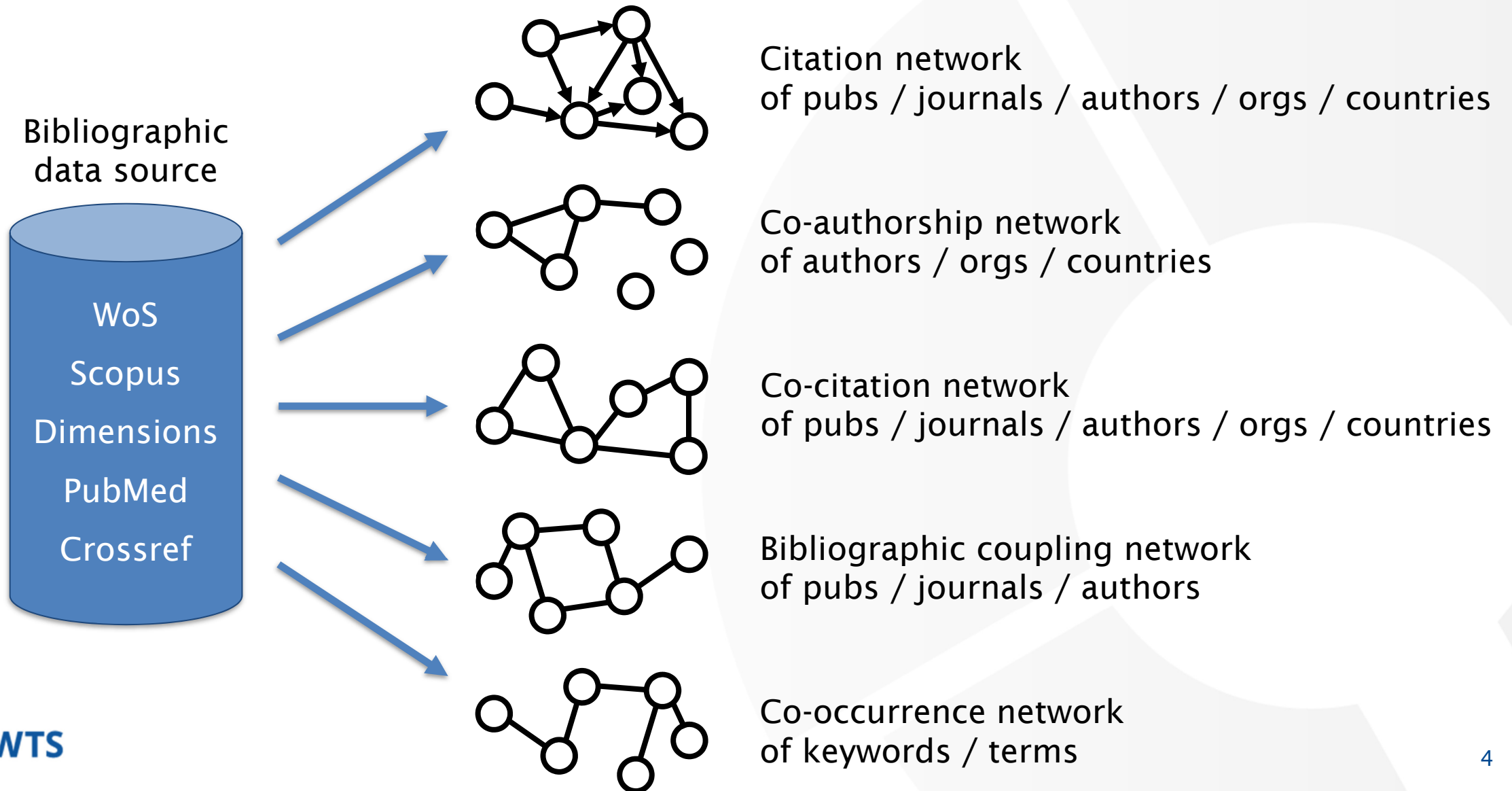
Types of networks supported by each data source

	Co-authorship	Co-occurrence	Citation	Bibliographic coupling	Co-citation
Web of Science	✔	✔	✔	✔	✔
Scopus	✔	✔	✔	✔	✔
Dimensions	✔	✖	✔	✔	✖
PubMed	✔	✔	✖	✖	✖
Crossref	✔	✔	✔	✔	✔

# Journal citation network based on openly available Crossref data

Demonstration

- Journals:
  - *Journal of Informetrics* (Elsevier)
  - *Scientometrics* (Springer Nature)

- Time period: 2007-2016

- Data sources:
  - Dimensions
  - Crossref
  - OCC (OpenCitations Corpus)
  - COCI (OpenCitations Index of Crossref open DOI-to-DOI references)

Coverage of publications and citations for each data source
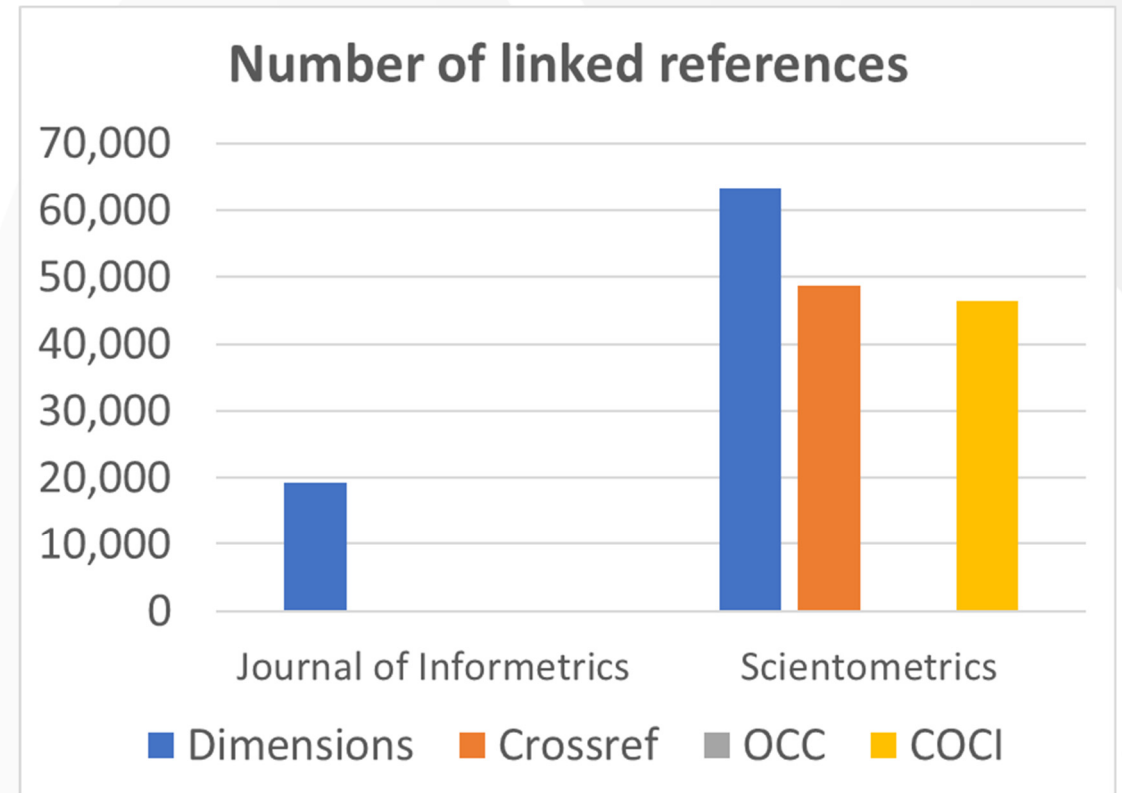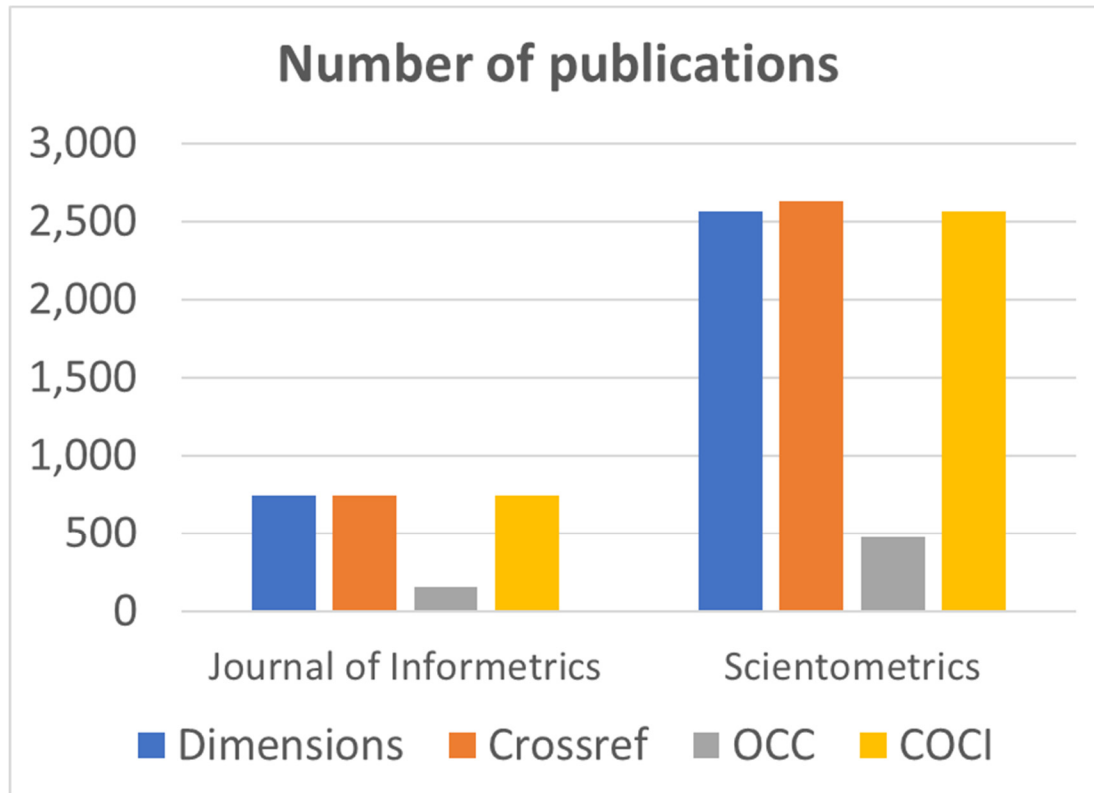
Wish list for improving open data sources

- Expanding coverage of publications (OCC)

- Opening citations (Crossref)

- Opening other metadata, e.g. abstracts (Dimensions, Crossref, OCC)

- Improving completeness and standardization of metadata (Crossref)

- Speeding up APIs

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Thank you for your attention!