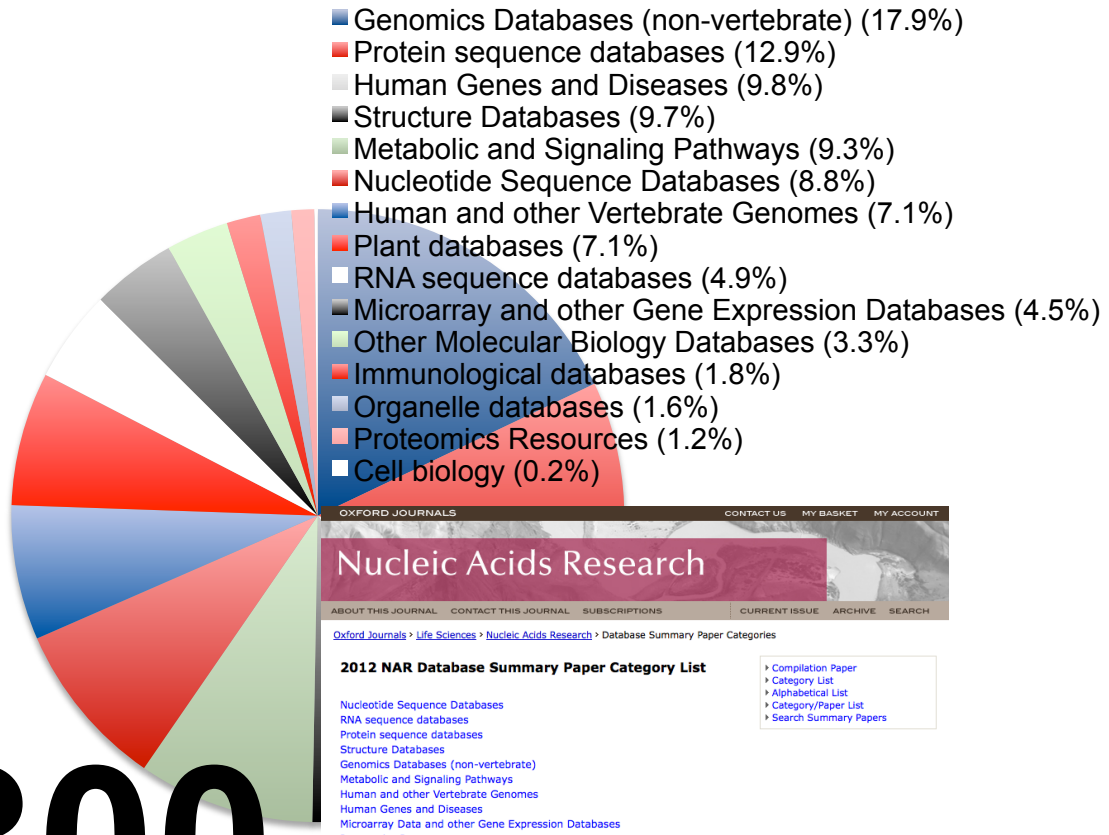
Minimum metadata to interlink services in life sciences

Manuel Corpas, Project Leader at TGAC and ELIXIR UK deputy technical coordinator

Life sciences data sources

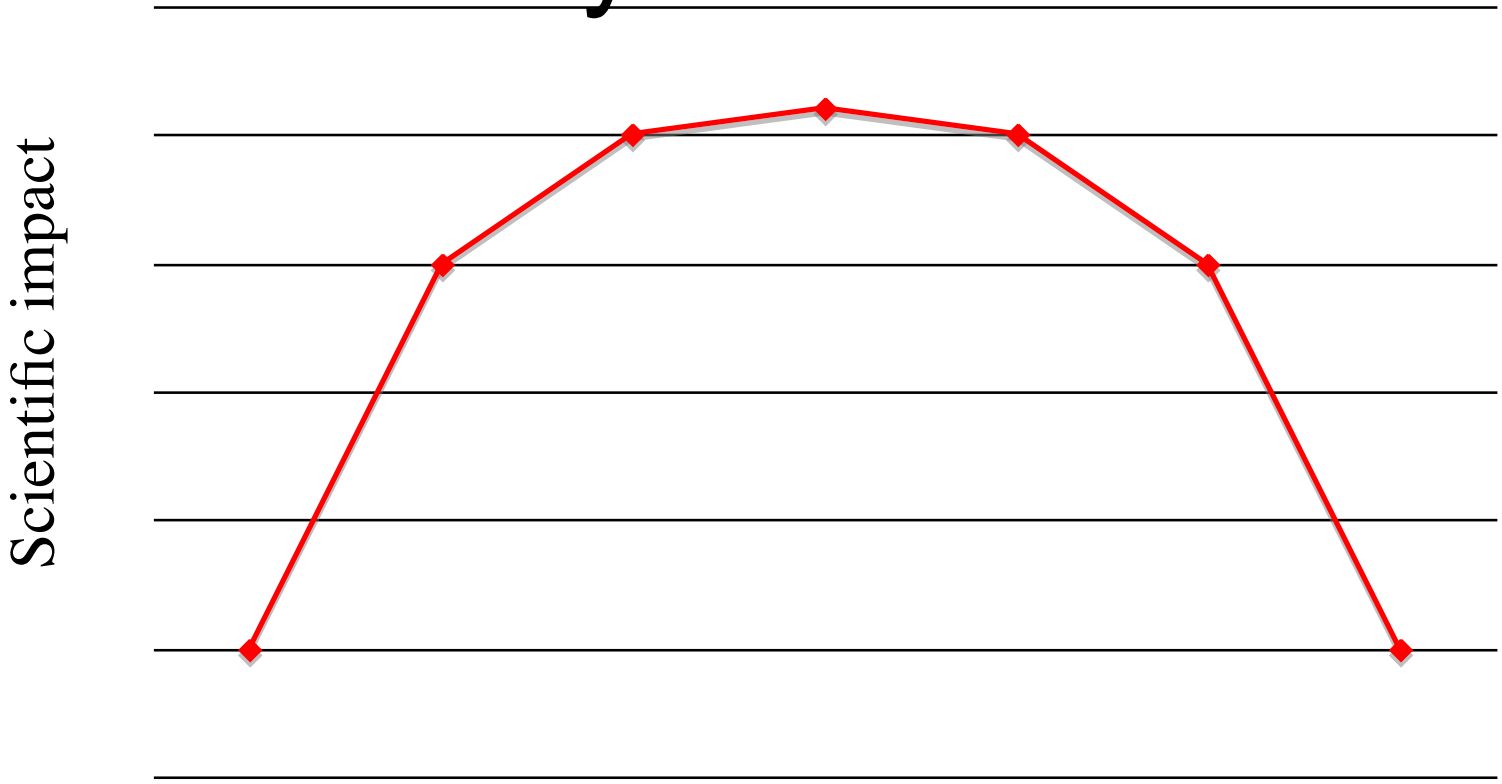
- Diverse
- Disperse
- Massive



~1800
molecular biology data resources

Nucleic Acids Research annual Database Issue
and the NAR online Molecular Biology Database Collection in 2012.
MY Galperin, GR Cochrane – Nucleic Acids Research, 2011

Utility of databases

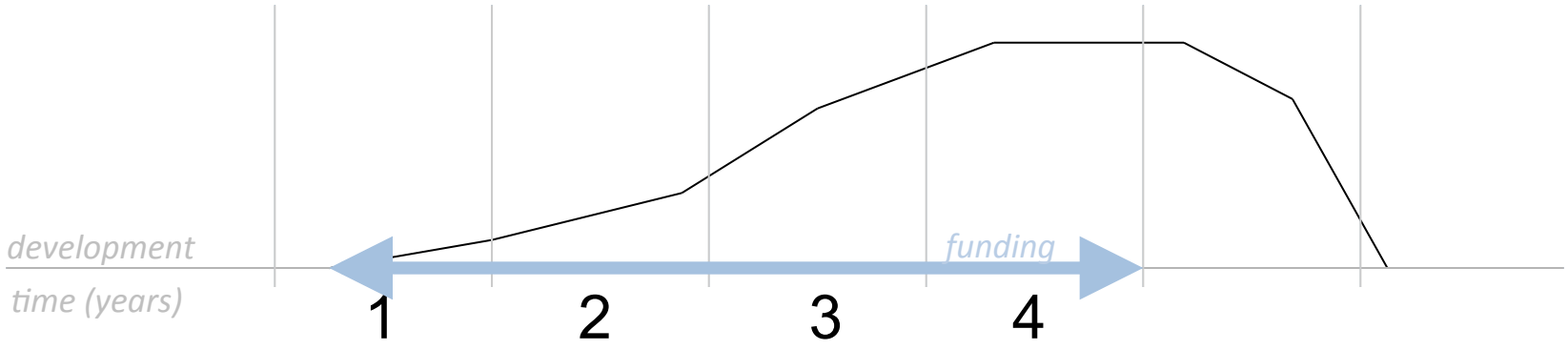


Why so many sources?

- Complexity of data
- Many communities
- Funding encourages new development

Are they sustainable?

- Just 20% has a sustained future*



** Merali Z. et all. Databases in peril. Nature 2005.*

This is not a unique problem for the Life Sciences

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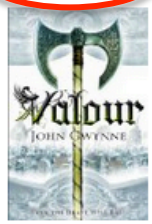

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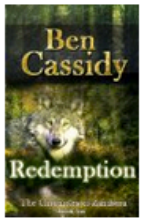

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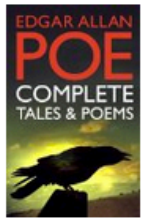

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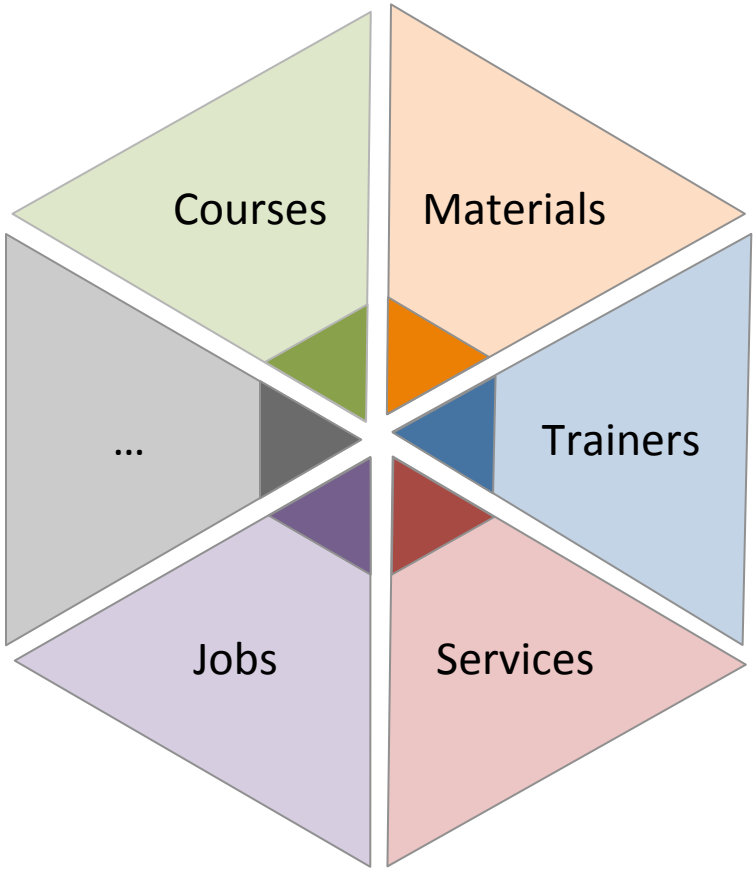
How could this be achieved?

- If organizations could agree on adopting a **minimum set of metadata** to annotate services and information we could **interconnect services**, **provide context information** and help users with **recommendations** the same way it is done in ecommerce websites

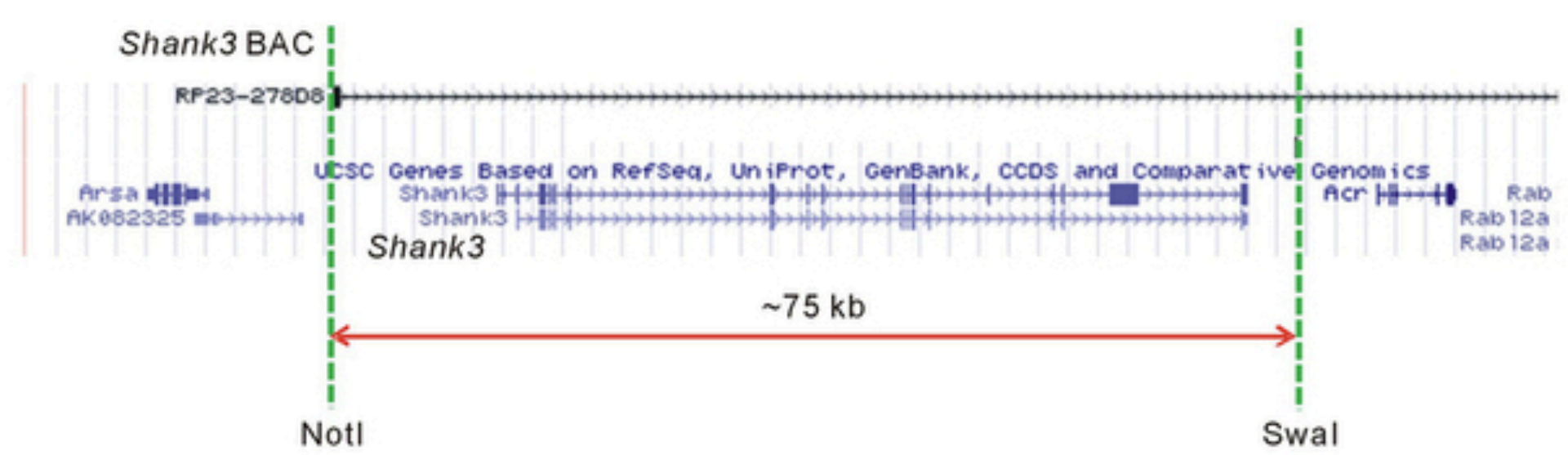
Minimum metadata

life sciences

- Title
- Description
- Creator
- Publication Date
- **Topics**
- **Audience**



Minimum metadata about files?



- Suggestions of other available databases
- Tools to do expression analysis
- Courses on database analysis
- Recent publications involving SHANK3

We would like to

- Define Life Sciences metadata
  - Community based
  - Metadata for EUDAT and all other services in Life Sciences
    - So we can contextualise information between different services

SASI

Scientific Announcement Standards Initiative

Consensus standard for automatic announcement exchange among life science organizations

GOBLET

Global Organisation for Bioinformatics Learning, Education & Training

Bioinformatics Training Network

SoIBio

SGBC

APBioNET

SEB Society for Experimental Biology

biosharing Run By Oxford e-Research Centre

Fundação Calouste Gulbenkian Instituto Gulbenkian de Ciência

CSC

itico

nowgen engagement • education • training

SIB Swiss Institute of Bioinformatics

Radboud University Nijmegen Medical Centre Nijmegen Centre for Molecular Life Sciences

bioinformatics.ca

edinburgh genomics

TGAC The Genome Analysis Centre™

nbic netherlands bioinformatics centre

Bits Bioinformatics ITalian Society

EMBL-EBI

CBAT Computational Genomics Analysis and Training

Australian Bioinformatics Network

iSCB International Society for Computational Biology

CPGR Centre for Proteomic & Genomic Research

ASBCB

SeqAhead

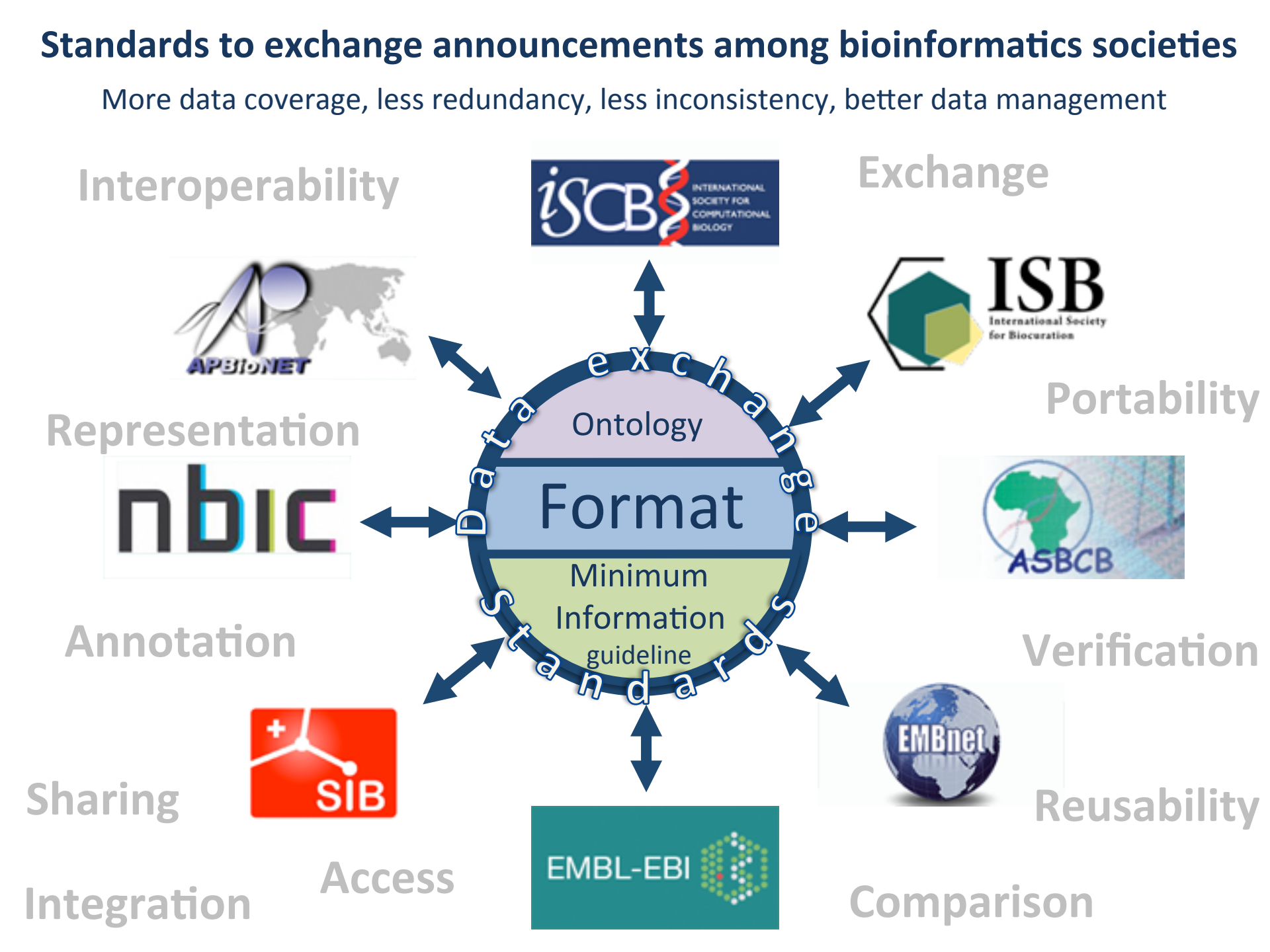
ISB International Society for Biocuration

The Sainsbury Laboratory

EMBnet The Global Bioinformatics Network

Standards to exchange announcements among bioinformatics societies

More data coverage, less redundancy, less inconsistency, better data management



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Minimun	General	text (1)	**Description**		Overview	Objectives
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Optional	General	text (1)	**Comments**			x
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Study Description	
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Categories of data collected	None selected
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Biomedical Research

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Something additional to minimum metadata

- Standard format
- If we have something that is common for the community, then we can
  - People who search EBI services can see there are things in EUDat that are related
  - EUDat defines metadata, so does figShare, Google, etc. Each organisation defines metadata independently without community agreement