

HERITAGE CONNECTOR

TRANSFORMING TEXT INTO DATA TO EXTRACT MEANING AND MAKE CONNECTIONS



Kalyan Dutia, Research Developer

Rhiannon Lewis, Project Co-ordinator

John Stack, Digital Director

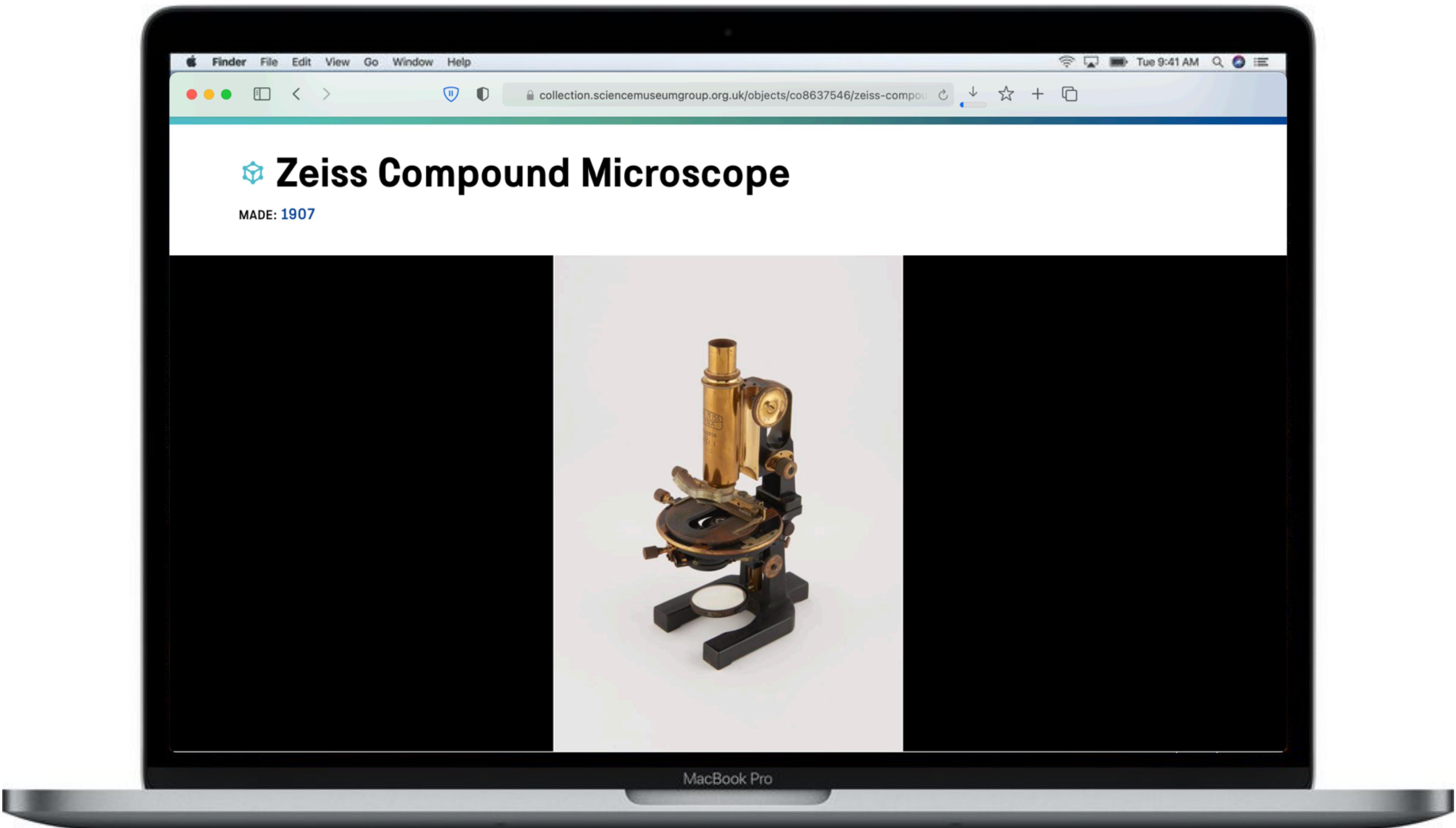
Jamie Unwin, Technical Architect Collections

Jane Winters, Professor of Digital Humanities & Pro-Dean for Libraries

Angela Wolff, Full Stack Developer, V&A

How can existing digital tools and methods be used to build relationships at scale between poorly and inconsistently catalogued digitised collection objects and other content sources?





Finder File Edit View Go Window Help

collection.sciencemuseumgroup.org.uk/objects/co8637546/zeiss-compou

Tue 9:41 AM

Zeiss Compound Microscope

MADE: 1907

The image shows a MacBook Pro displaying a web browser window. The browser's title bar reads "collection.sciencemuseumgroup.org.uk/objects/co8637546/zeiss-compou". The main content area is titled "DETAILS" and contains the following information:

- CATEGORY: Scientific Instruments & Research
- OBJECT NUMBER: Y1991.49.2/1
- TYPE: compound microscope
- TAXONOMY:
 - furnishing and equipment
 - tools & equipment
 - optical instrument
 - microscope
 - furnishing and equipment
 - tools & equipment
 - optical instrument
 - microscope
 - CREDIT: Gift of Central Manchester Health Authority

To the right of the main content is a sidebar titled "CITE THIS PAGE" which contains the URL "Science Museum Group. Zeiss Compound". The sidebar also includes sections for "RIGHTS" and "DOWNLOAD".

RIGHTS
We encourage the use and reuse of our collection data.

Data in the title, made, maker and details fields are released under [Creative Commons Zero](#)

Descriptions and all other text content are licensed under a [Creative Commons Attribution 4.0 licence](#)

[Using our data](#)

DOWNLOAD

Download catalogue entry as [JSON](#)

View manifest in [IIIF viewer](#)

Add to [Animal Crossing Art Generator](#)

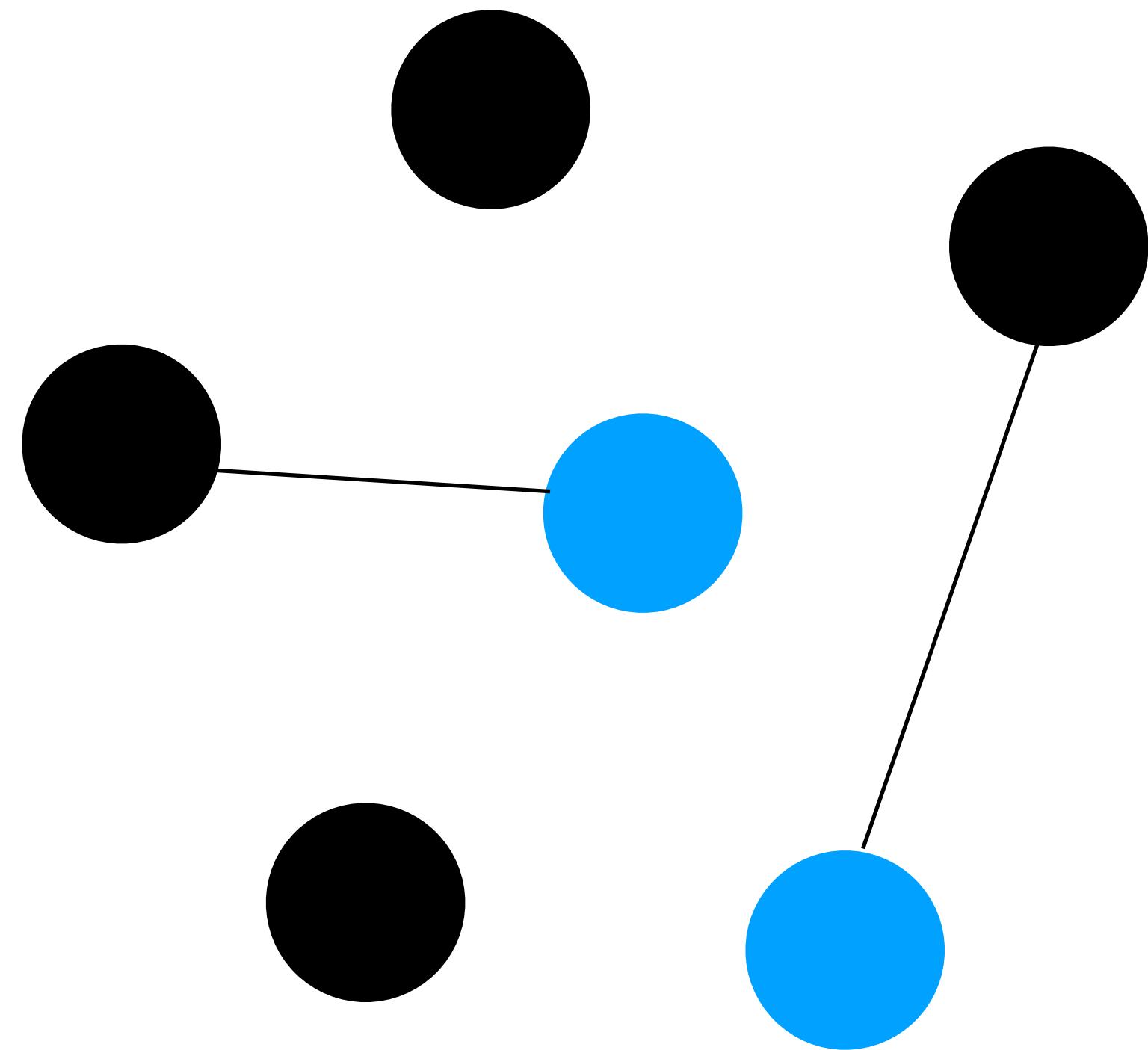
Download manifest [IIIF](#)

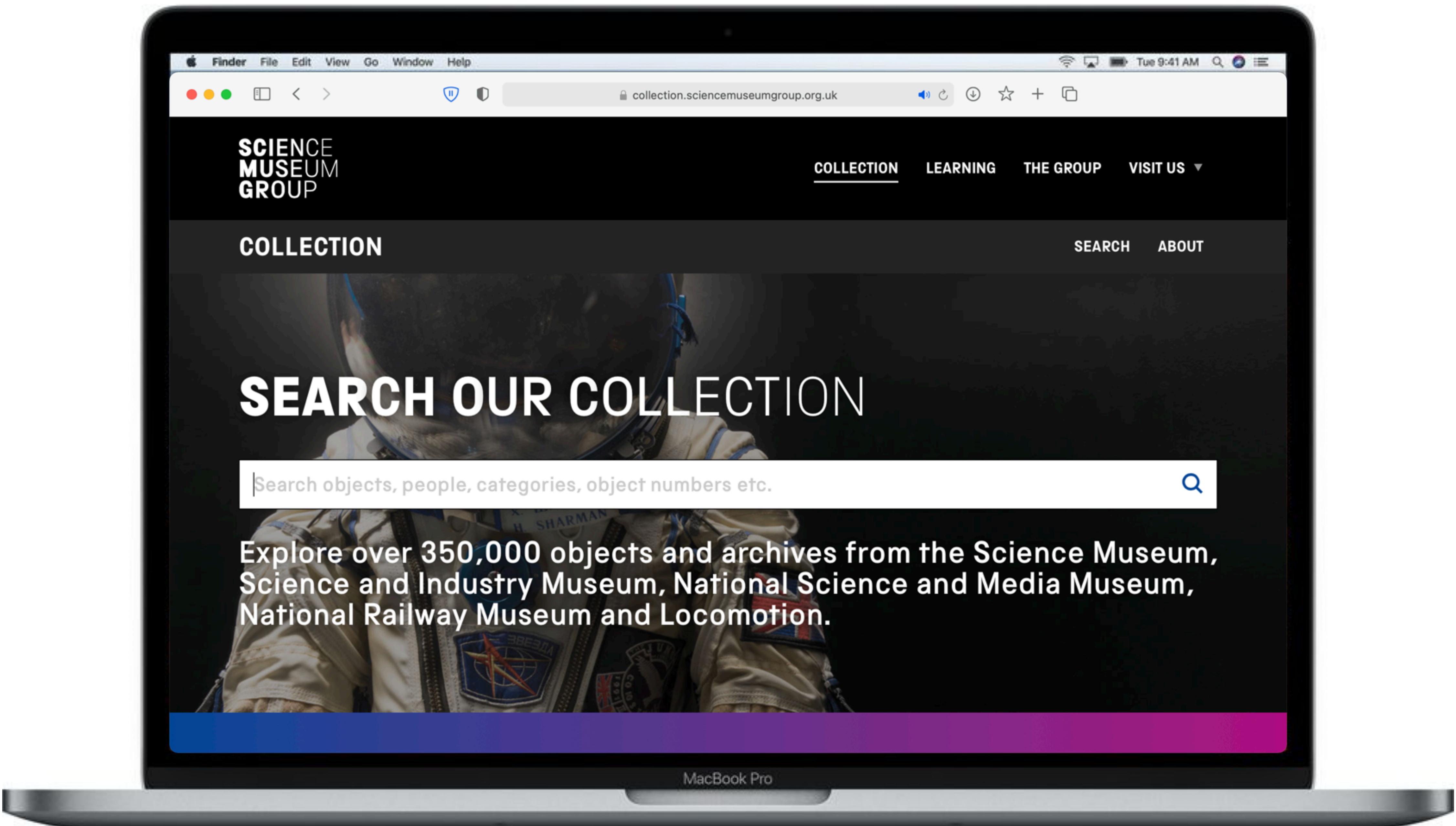
Our records are constantly being enhanced and improved, but please note that we cannot guarantee the accuracy of any information shown on this website.

MacBook Pro

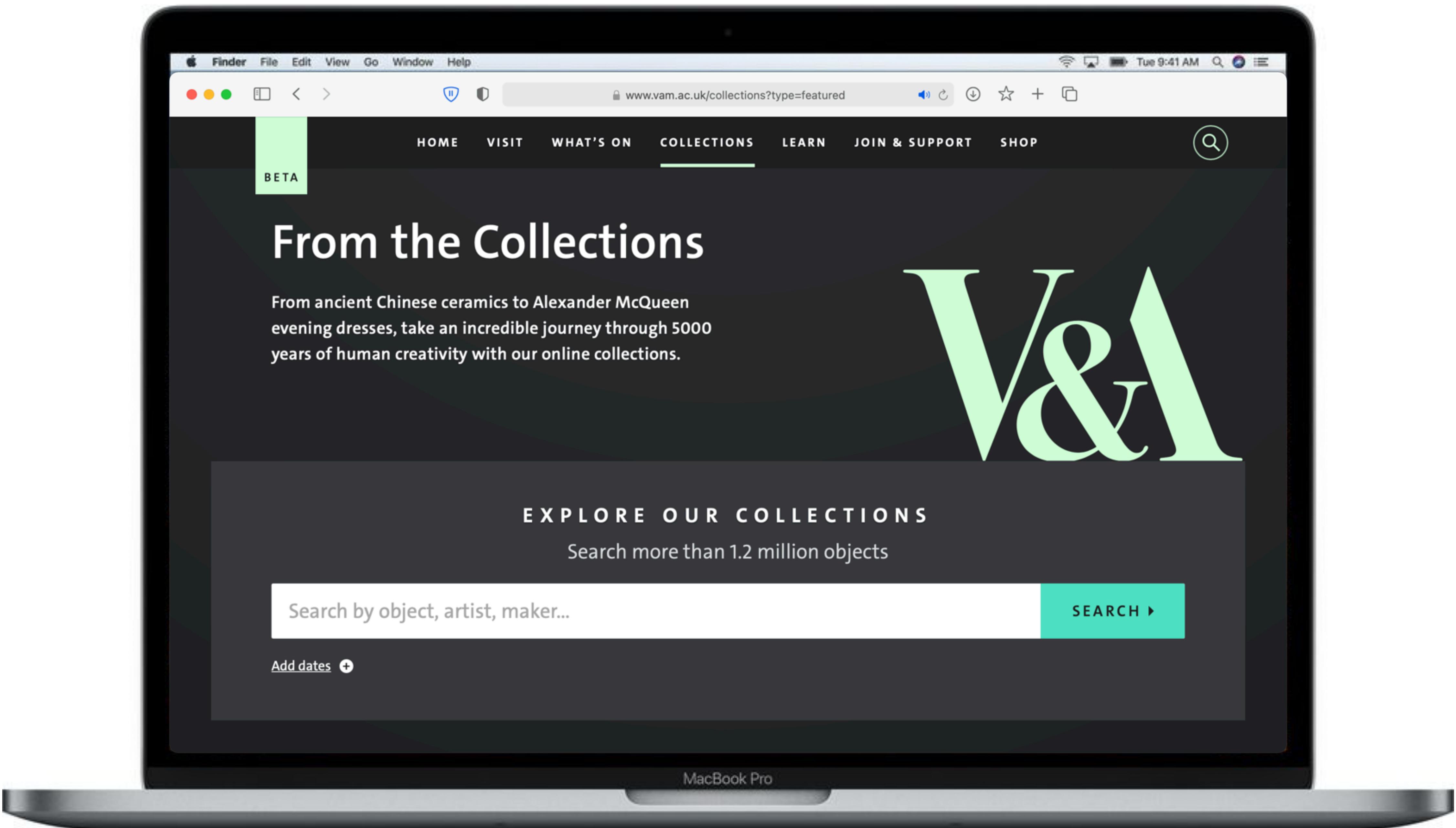
**This is our collection
now..**

Small islands of thin data





MacBook Pro

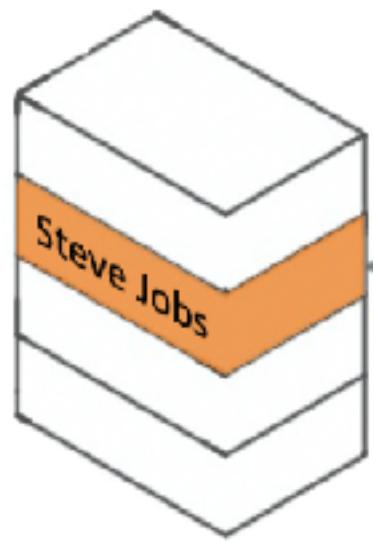


HERITAGE CONNECTOR PROJECT

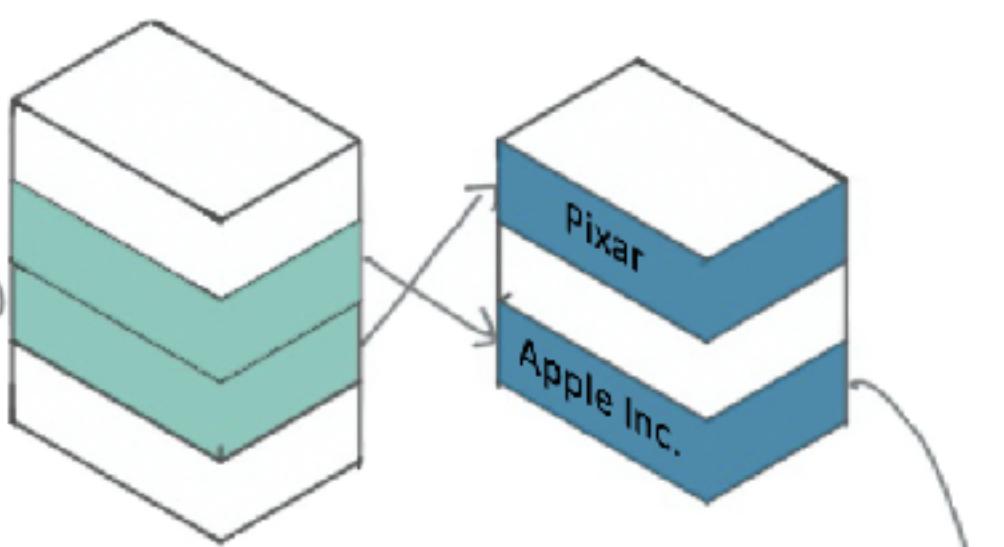
1. Knowledge graphs
2. Linked data
3. Artificial intelligence

KNOWLEDGE GRAPHS AND LINKED DATA

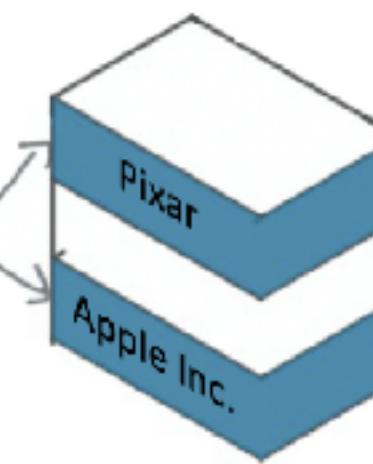
PEOPLE



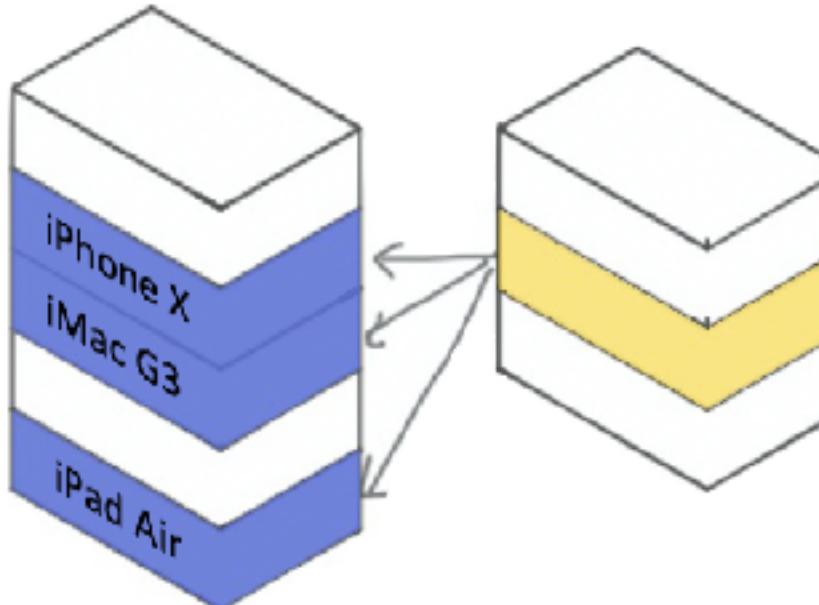
FOUNDERS



ORGANISATIONS

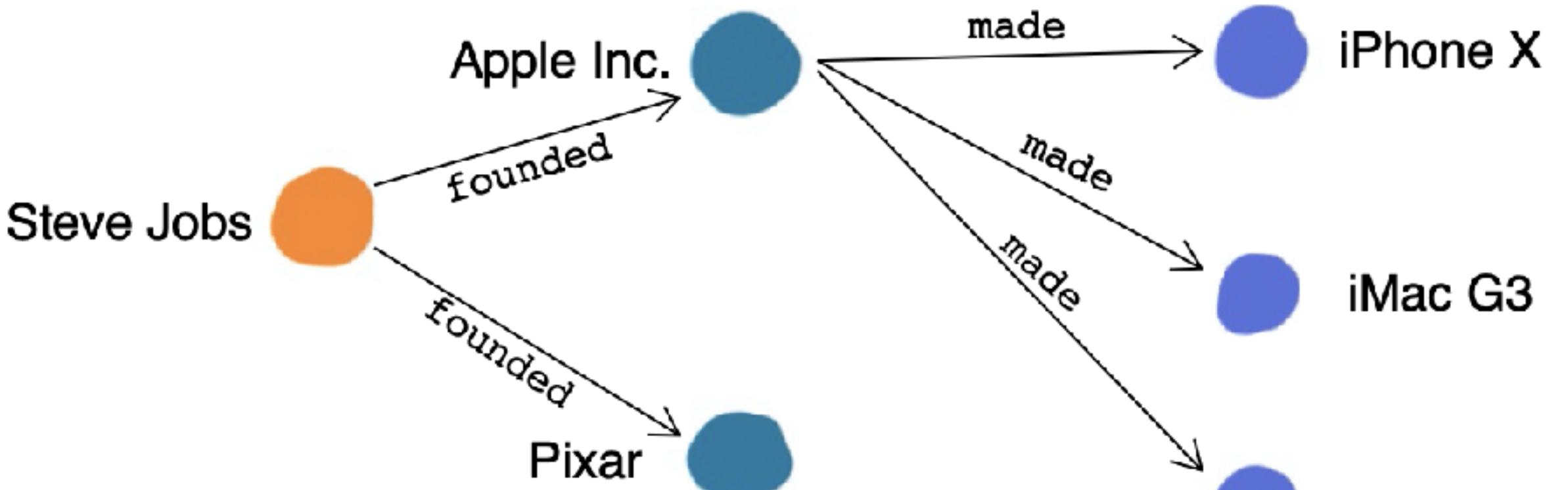
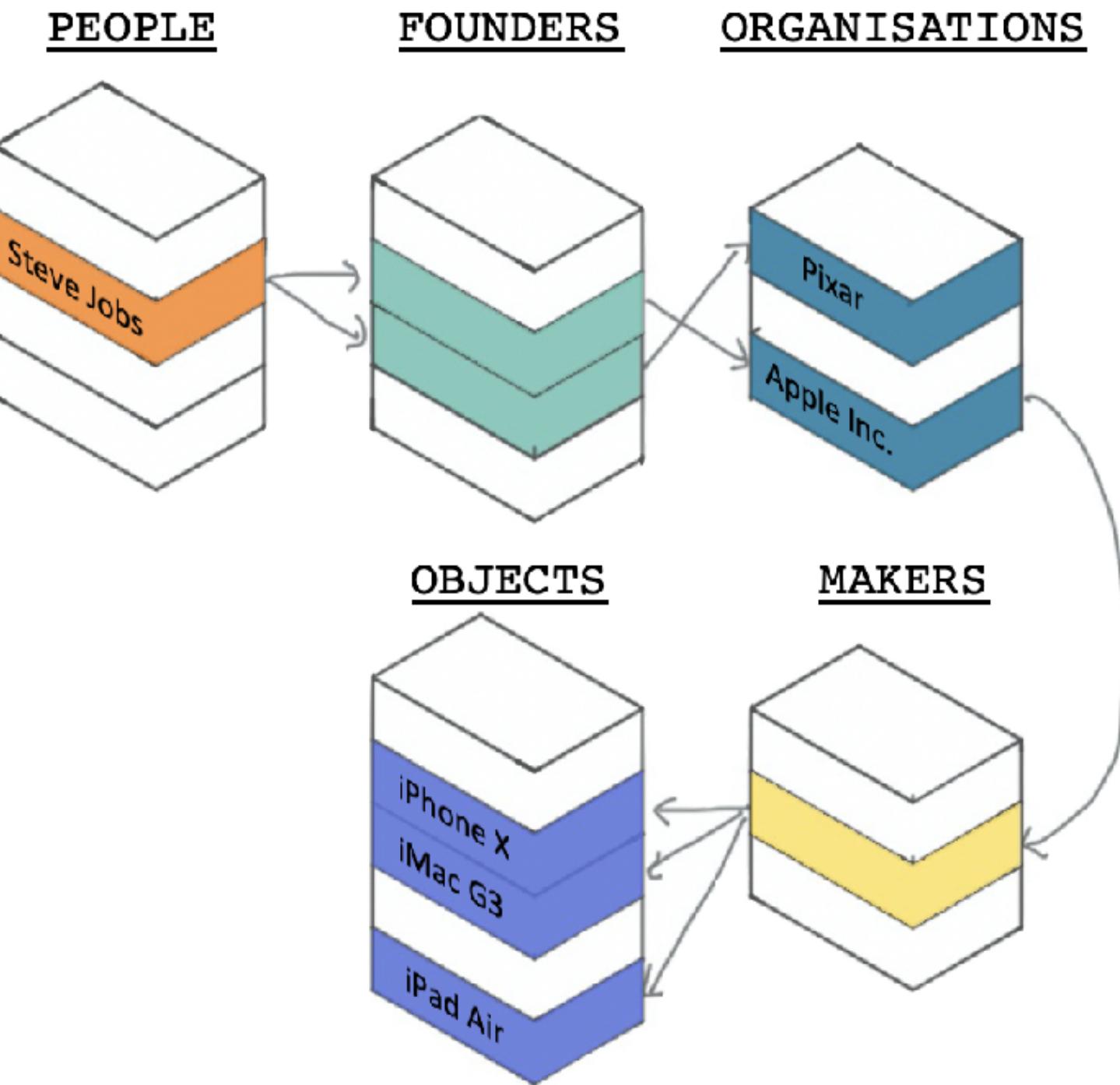


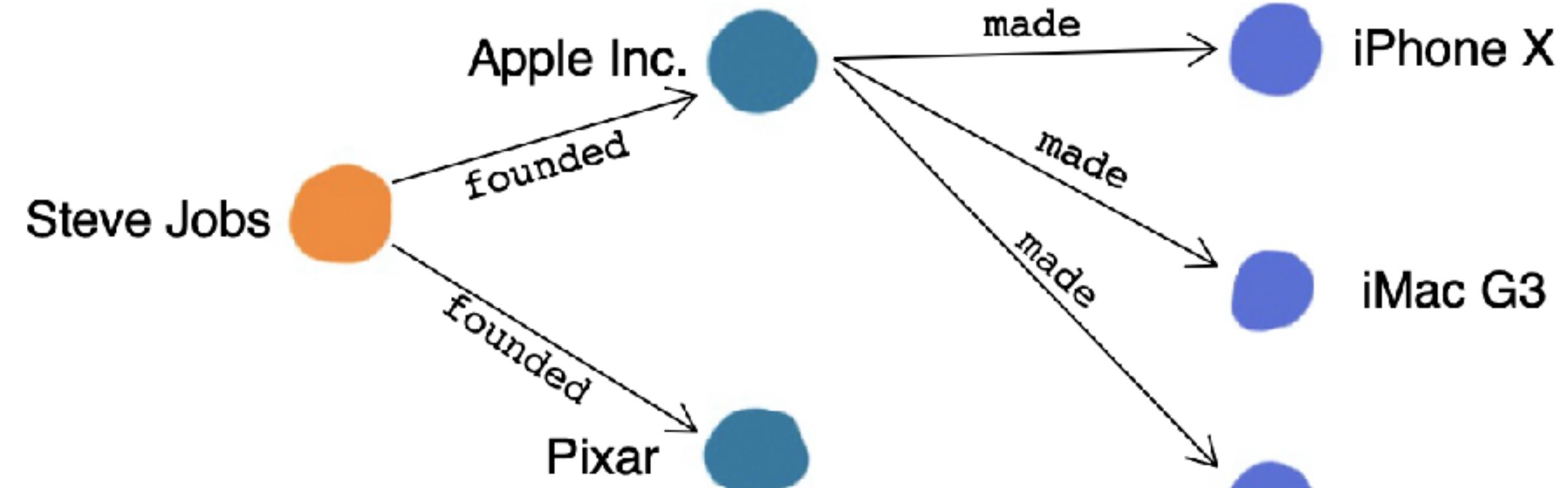
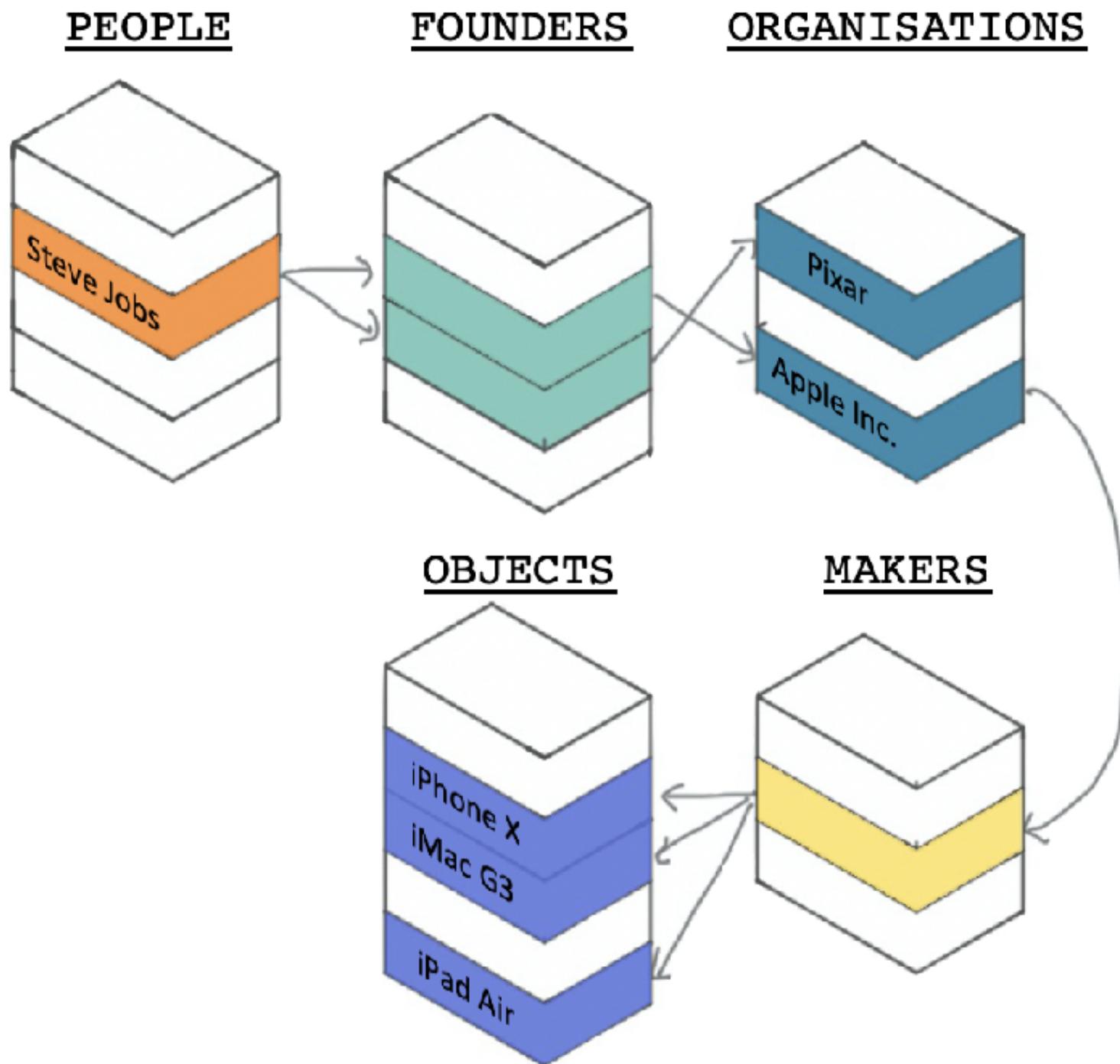
OBJECTS



MAKERS







text Anna Atkins was born in Tonbridge, Kent

triples anna_atkins, birth_place, tonbridge_kent

linked data

<https://collection.science museum group.org.uk/people/cp113991/>
<https://www.wikidata.org/wiki/Property:P19>,
<https://www.wikidata.org/wiki/Q936183>

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en.wikipedia.org/wiki/General_Electric

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Article Talk Read Edit View history Search Wikipedia

General Electric

From Wikipedia, the free encyclopedia

"GE" redirects here. For other uses, see [GE \(disambiguation\)](#).

Not to be confused with the former British [General Electric Company](#) (GEC).

General Electric Company (GE) is an American multinational conglomerate incorporated in [New York City](#) and headquartered in [Boston](#). As of 2018, the company operates through the following segments: [aviation](#), [healthcare](#), [power](#), [renewable energy](#), [digital industry](#), [additive manufacturing](#) and [venture capital and finance](#).^{[2][3]}

In 2020, GE ranked among the [Fortune 500](#) as the 33rd largest firm in the [United States](#) by gross revenue.^[4] In 2011, GE ranked among the Fortune 20 as the 14th-most profitable company but has since very severely underperformed the market (by about 75%) as its profitability collapsed.^{[5][6][7]} Two employees of GE—[Irving Langmuir](#) (1932) and [Ivar Giaever](#) (1973)—have been awarded the [Nobel Prize](#).^[8]

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- 1 History
 - 1.1 Formation
 - 1.2 Public company
 - 1.3 RCA and NBC
 - 1.4 Television
 - 1.5 Power generation
 - 1.6 Computing
 - 1.7 Acquisitions and divestments
 - 1.8 Fraud allegations and notice of possible SEC civil action
- 2 Financial performance
 - 2.1 Dividends
- 3 Stock
- 4 Bribery
- 5 Corporate affairs
 - 5.1 CEO

General Electric Company



| | |
|-------------|-----------------------------------------------------------------------------------------|
| Type | Public |
| Traded as | NYSE: GE ^[2] S&P 100 component S&P 500 component |
| ISIN | US3696041033 |
| Industry | Conglomerate |
| Predecessor | Edison General Electric Thomson-Houston Electric |
| Founded | April 15, 1892; 128 years ago in Schenectady, New York, US |
| Founders | Charles A. Coffin Elihu Thomson Edwin J. Houston Thomas Edison J. P. Morgan |

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en.wikipedia.org/wiki/General_Electric Tue 9:41 AM

Page information
Cite this page
Wikidata item

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Wikimedia Commons
Wikinews

Languages 
বাংলা
Deutsch
Ελληνικά
Français
हिन्दी
Italiano
ਪੰਜਾਬੀ
Scots
中文

文 A 54 more

Edit links

1.7 Acquisitions and divestments
1.8 Fraud allegations and notice of possible SEC civil action
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5 Corporate affairs
5.1 CEO
5.2 Corporate recognition and rankings
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9 Marketing initiatives
10 Political affiliation
11 Notable appearances in media
12 See also
13 References
14 Further reading
15 External links

Industry Conglomerate
Predecessor Edison General Electric
Thomson-Houston Electric
Founded April 15, 1892; 128 years ago
in Schenectady, New York, US
Founders Charles A. Coffin
Elihu Thomson
Edwin J. Houston
Thomas Edison
J. P. Morgan
Headquarters Boston, Massachusetts, US
Area served Worldwide
Key people H. Lawrence Culp Jr.
(Chairman & CEO)
Products Aircraft engines · Electrical distribution · Electric motors · Energy · Finance · Health care · Software · Wind turbines
Revenue ▼ US\$ 75.619 billion (2020)
Operating income ▲ US\$ 5.197 billion (2020)
Net income ▲ US\$ 5.230 billion (2020)
Total assets ▼ US\$ 253.452 billion (2020)
Total equity ▲ US\$ 35.552 billion (2020)
Number of employees 205,000 (2020)
Subsidiaries GE Additive
GE Aviation
GE Capital
GE Digital
GE Global Research
GE Hitachi Nuclear Energy
GE Healthcare
GE Power
GE Renewable Energy
GE Ventures
Website www.ge.com
Footnotes / references [1]

History [edit]

Further information: [General Electric timeline](#)

Formation [edit]



During 1889, Thomas Edison had business interests in many electricity-related companies, including Edison Lamp Company, a lamp manufacturer in East Newark, New Jersey; Edison Machine Works, a manufacturer of dynamos and large electric motors in Schenectady, New York; Bergmann & Company, a manufacturer of electric lighting fixtures, sockets, and other electric lighting devices; and Edison Electric Light Company, the patent-holding company and the financial arm backed by J. P. Morgan and the

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en.wikipedia.org/wiki/General_Electric Tue 9:41 AM

General Electric

[\[hide\]](#)

| | Current | GE Additive · GE Aviation (GE Aviation Systems) · GE Capital · GE Digital · GE Healthcare · GE Power · GE Renewable Energy (LM Wind Power) · GE Research |
|--------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subsidiaries and divisions | Former and defunct | Australian Guarantee Corporation ¹ · Canadian General Electric ¹ · Compagnia Generale di Elettricità ² · Current, powered by GE ² · Electric Bond and Share Company ² · GE Aerospace ² · GE Americom ² · GE Appliances ² · GE Automation & Controls ² · GE Betz ² · GE Capital IT Solutions ² · GE Capital Rail Services ² · GE Commercial Finance ¹ · GE Energy ¹ · GE Equipment Services ² · GE Home & Business Solutions ² · GE Industrial ² · GE Infrastructure ¹ · GE Jenbacher ² · GE Lighting ² · GE Measurement & Control Solutions ¹ · GE Oil and Gas ¹ · GE Security ² · GE Transportation ² · GE Waukesha ² · GE Wind Energy ¹ · GECIS ² · GEIS ² · Genesis Lease ² · Genworth Financial ² · Montgomery Ward ² · Synchrony Financial ² · Tungsram ¹ · United Nuclear Corporation ¹ · Utah Construction Company ² · Whatman ¹ |
| Joint ventures / shareholdings | Current | Baker Hughes (37%) · CFM International (50%) · Engine Alliance (50%) · GE Hitachi Nuclear Energy (60%) · GE Honda Aero Engines (50%) · Prolec GE (49.99%) · TBS GB |
| | Former | Alco-GE (1940–53) · NBC (1926–30, 1986–2004) · NBCUniversal, LLC (2004–13) · Penske Truck Leasing (15.5%) · Wabtec |
| Products and brands | | Aircraft engines · General Comprehensive Operating System · GEne · Locomotives · Mazda · Reciprocating engines · Trivection oven · Tungsram |
| People | Founders | Charles A. Coffin · Thomas Edison · Edwin J. Houston · J. P. Morgan · Elihu Thomson |
| | Executives | Jeffrey R. Immelt · Jack Welch · Bob Wright |
| | Outside Directors | James Cash Jr. · John L. Flannery · Ann Fudge · Susan Hockfield · Andrea Jung · Rochelle Lazarus · Sam Nunn · Roger Penske · Vera Silva · Douglas A. Warner III |
| Places and facilities | | GE Building (30 Rockefeller Plaza) · GE Building (570 Lexington Avenue) · Nela Park · Realty Plot · Research Laboratory · River Works · Specialty Control Plant · Switchgear Plant · Welch Technology Centre |
| Sponsorship | | Carousel of Progress (1964–65, 1967–73, 1975–85) · Horizons at Epcot (1983–93) |
| Other | | GE True · The General Electric Concert · General Electric EdgeLab · General Electric Theater · General Imaging · Thomson-Houston Electric Company · Timeline · United States v. General Electric Co. · Diamond v. Chakrabarty · Phoebus cartel · KGEI · WGEO |

¹Now integrated into other GE divisions or business groupings · ²Sold or spun off

[Category](#)

Principal owners of the Houston Astros franchise

[\[show\]](#)

| | Thomas Edison |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VTE | BNF: cb11880709c · (data) · ISNI: 0000 0001 0943 0267 · LCCN: n79078780 · MA: 1332737386 · NKC: olak2003164566 · SUDOC: 027769364 · VIAF: 136799030 · WorldCat Identities: lcnn-n79078780 |
| Authority control | [show] |

Categories: General Electric | 1892 establishments in New York (state) | Aircraft engine manufacturers of the United States | American companies established in 1892

MacBook Pro

Finder File Edit View Go Window Help

www.wikidata.org/wiki/Q54173

English Not logged in Talk Contributions Create account Log in

Item Discussion Read View history Search Wikidata

General Electric (Q54173)

American multinational conglomerate corporation

General Electric Company | GE | General Electric Co.

edit

In more languages

Configure

| Language | Label | Description | Also known as |
|-----------------|------------------|-------------------------------------------------|--------------------------------------------------------|
| English | General Electric | American multinational conglomerate corporation | General Electric Company GE General Electric Co. |
| British English | General Electric | No description defined | |
| French | General Electric | conglomérat américain | |
| German | General Electric | US-amerikanischer Mischkonzern | |

All entered languages

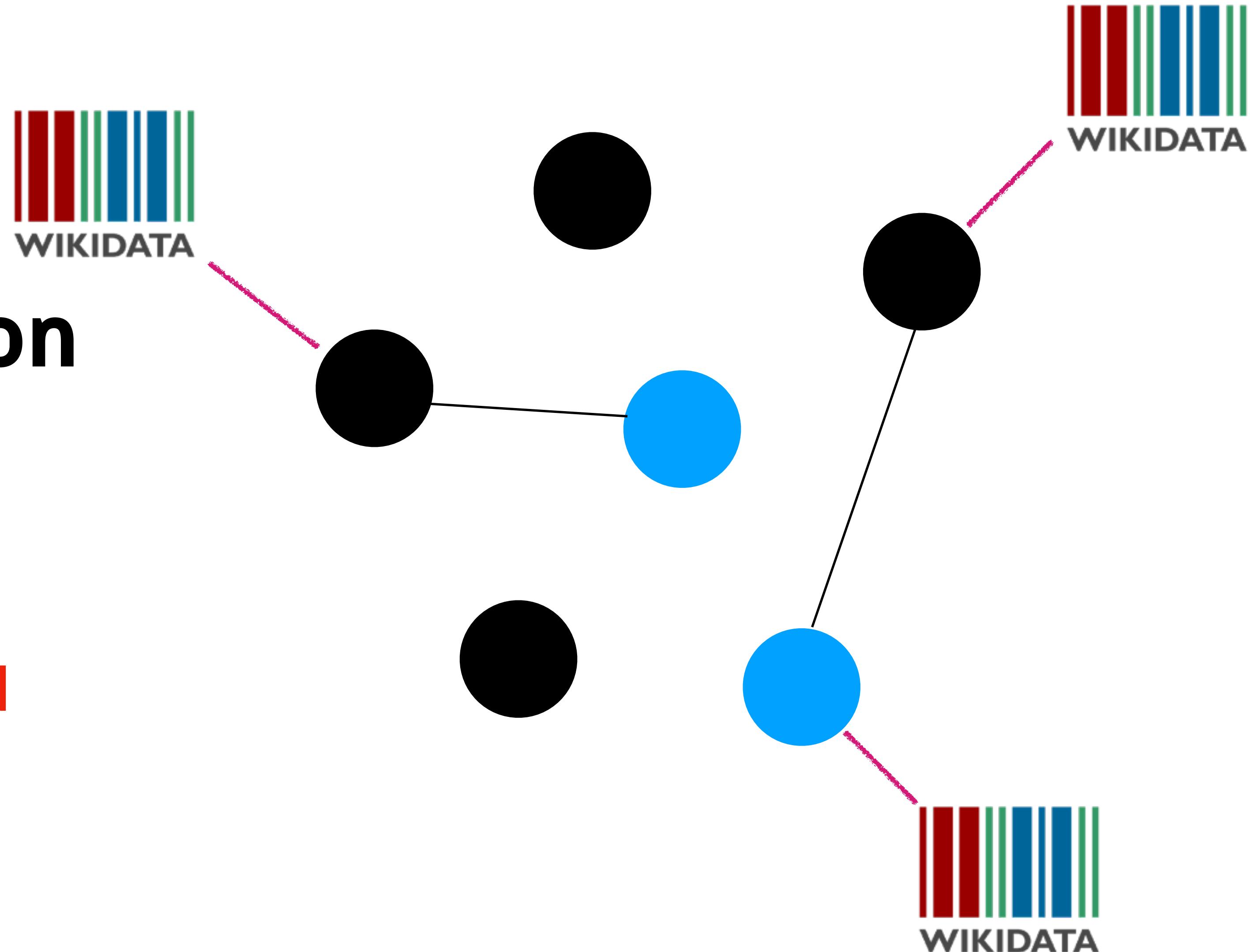
Statements

| | | |
|-------------|----------------|-----------------|
| instance of | business | edit |
| | ▼ 0 references | + add reference |
| | enterprise | edit |
| | ▼ 0 references | |

MacBook Pro

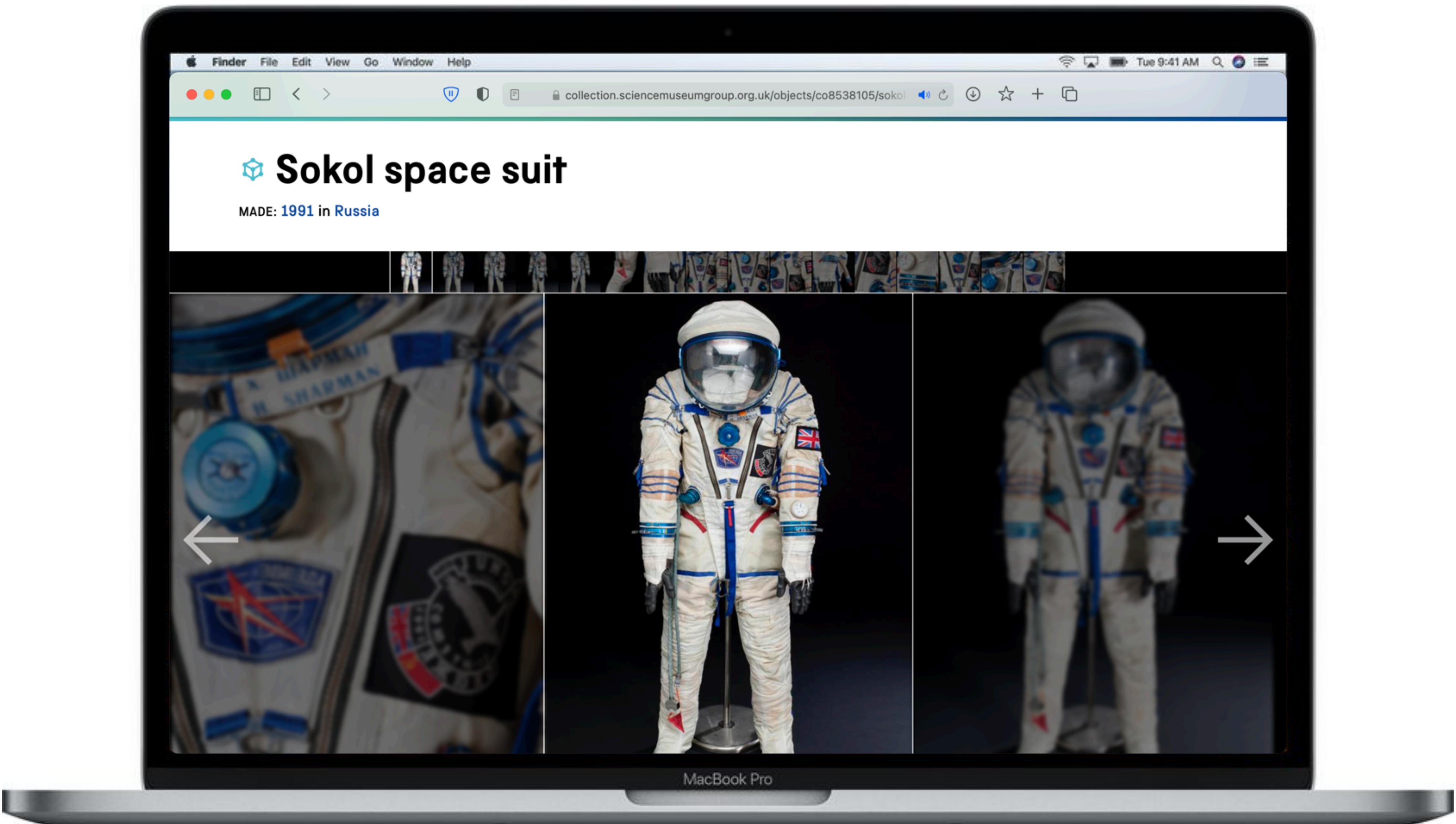
**This is our collection
connected to
Wikidata..**

**Small islands of connected
data**



ARTIFICIAL INTELLIGENCE

1. Processing IDs and URLs (links)
2. Adding new links to Wikidata with machine learning
3. Adding new links from texts with named entity recognition



The screenshot shows a MacBook Pro displaying a web browser window. The browser's title bar reads "collection.science museumgroup.org.uk/objects/co8538105/sokol". The main content of the page is about a SOKOL space suit worn by Helen Sharman during her flight to the Mir space station in 1991. The text describes the suit's development after the Soyuz 11 accident and its features. To the right of the main content are two sidebar boxes: "ON DISPLAY" and "RELATED PEOPLE".

SOKOL space suit worn by Helen Sharman
Science Museum Group Collection
© The Board of Trustees of the Science Museum

British astronaut, Helen Sharman's Sokol spacesuit made by Zvezda. Sharman wore this rescue suit during the space flight on board the SOYUZ-TM-12 and MIR spacecraft in May 1991. Space suit model number KV-2 No. 167.

Sokol-KV-2 rescue suit worn by Helen Sharman during the Juno mission to the Mir space station, 1991

СПАСАТЕЛЬНЫЙ СКАФАНДР

Helen Sharman was the first British person in space. Sharman wore this suit for two hours on the ground to check its fit. Lying back, she tried to read but her arms ached from holding the book for so long. Despite the suit's cooling systems she sweated 2 litres during the mission launch. Once she could remove the suit, she dried it thoroughly to ensure it would not go mouldy.

The Sokol suit was developed after three unsuited cosmonauts asphyxiated on the Soyuz 11 mission in 1971 when their descent module depressurised during the return to Earth. Every cosmonaut now wears one during launch and return from space. It will keep the wearer alive for a number of hours in the event of a cabin depressurisation. Each suit is tailor made to the individual cosmonaut and comprises an inner, airtight 'bladder' of rubberised plastic and an outer layer of nylon canvas. There are connecting rings on the lower abdomen for air (cooling) and oxygen supplies and a centrally positioned pressure adjustment valve control on the chest; the pressure gauge is on the left wrist. The helmet and boots are integral with the rest of the suit; the gloves are attached with anodized aluminium bayonet fixings. Today's Sokol design is little changed from the original.

ON DISPLAY

Science Museum: Exploring Space Gallery

If you are visiting to see this object, please [contact us](#) in advance to make sure that it will be on display.

RELATED PEOPLE

[Helen Sharman](#)

RELATED ARTICLES

National Science and Media Museum

- [Bring the National Science and Media Museum collection home in Animal Crossing](#)
- [Science Museum](#)
- [Highlights on display](#)
- [Science Museum announces National Lottery ticket sales trial as Helen Sharman spacesuit goes back on display](#)
- [UK tour of Tim Peake's spacecraft attracts 1.3 million visitors as Science Museum marks Apollo anniversaries with Summer of Space](#)

British NORP astronaut, Helen Sharman's PERSON Sokol OBJECT spacesuit made by Zvezda ORG . Sharman PERSON wore this rescue suit during the space flight on board the SOYUZ-TM-12 and MIR spacecraft in May 1991 DATE . Space suit model number KV-2 No. 167 CARDINAL .

Sokol-KV-2 OBJECT rescue suit worn by Helen Sharman PERSON during the Juno OBJECT mission to the Mir OBJECT space station, 1991 DATE

СПАСАТЕЛЬНЫЙ СКАФАНДР

Helen Sharman PERSON was the first British NORP person in space. Sharman PERSON wore this suit for two hours on the ground to check its fit. Lying back, she tried to read but her arms ached from holding the book for so long. Despite the suit's cooling systems she sweated 2 litres during the mission launch. Once she could remove the suit, she dried it thoroughly to ensure it would not go mouldy.

The Sokol OBJECT suit was developed after three unsuited cosmonauts asphyxiated on the Soyuz 11 OBJECT mission in 1971 DATE when their descent module depressurised during the return to Earth LOC . Every cosmonaut now wears one during launch and return from space. It will keep the wearer alive for a number of hours in the event of a cabin depressurisation. Each suit is tailor made to the individual cosmonaut and comprises an inner, airtight 'bladder' of rubberised plastic and an outer layer of nylon canvas. There are connecting rings on the lower abdomen for air (cooling) and oxygen supplies and a centrally positioned pressure adjustment valve control on the chest; the pressure gauge is on the left wrist. The helmet and boots are integral with the rest of the suit; the gloves are attached with anodized aluminium bayonet fixings. Today DATE 's Sokol ORG design is little changed from the original.

Helen Sharman 1963

OCCUPATION: Astronaut, Broadcaster, Chemist, Engineer, Lecturer

NATIONALITY: British

BORN IN: Sheffield, South Yorkshire, England, United Kingdom

British **NORP** astronaut, **Sharman PERSON** Sokol **OBJECT** spacesuit made by **Zvezda ORG**. **Sharman PERSON** wore this rescue suit during the space flight on board the SOYUZ-TM-12 and MIR spacecraft in **May 1991 DATE**. Space suit model number KV-2 No. **167 CARDINAL**.

Sokol-KV-2 **OBJECT** rescue suit worn by **Sharman PERSON** during the **Juno OBJECT** mission to the **Mir OBJECT** space station, **1991 DATE**

СПАСАТЕЛЬНЫЙ СКАФАНДР

Sharman PERSON was the first **British NORP** person in space. **Sharman PERSON** wore this suit for two hours on the ground to check its fit. Lying back, she tried to read but her arms ached from holding the book for so long. Despite the suit's cooling systems she sweated 2 litres during the mission launch. Once she could remove the suit, she dried it thoroughly to ensure it would not go mouldy.

The **Sokol OBJECT** suit was developed after three unsuited cosmonauts asphyxiated on the **Soyuz 11 OBJECT** mission in **1971 DATE** when their descent module depressurised during the return to **Earth LOC**. Every cosmonaut now wears one during launch and return from space. It will keep the wearer alive for a number of hours in the event of a cabin depressurisation. Each suit is tailor made to the individual cosmonaut and comprises an inner, airtight 'bladder' of rubberised plastic and an outer layer of nylon canvas. There are connecting rings on the lower abdomen for air (cooling) and oxygen supplies and a centrally positioned pressure adjustment valve control on the chest; the pressure gauge is on the left wrist. The helmet and boots are integral with the rest of the suit; the gloves are attached with anodized aluminium bayonet fixings. **Today DATE**'s **Sokol ORG** design is little changed from the original.

Sokol space suit (Q1197668)

Russian spacesuit used on Soyuz
Sokol IVA | Sokol

NPP Zvezda (Q541905)

company in Moscow, Russia 

K-36DM | Zvezda (Russia) | Research-and-production enterprise "Zvezda" to them.

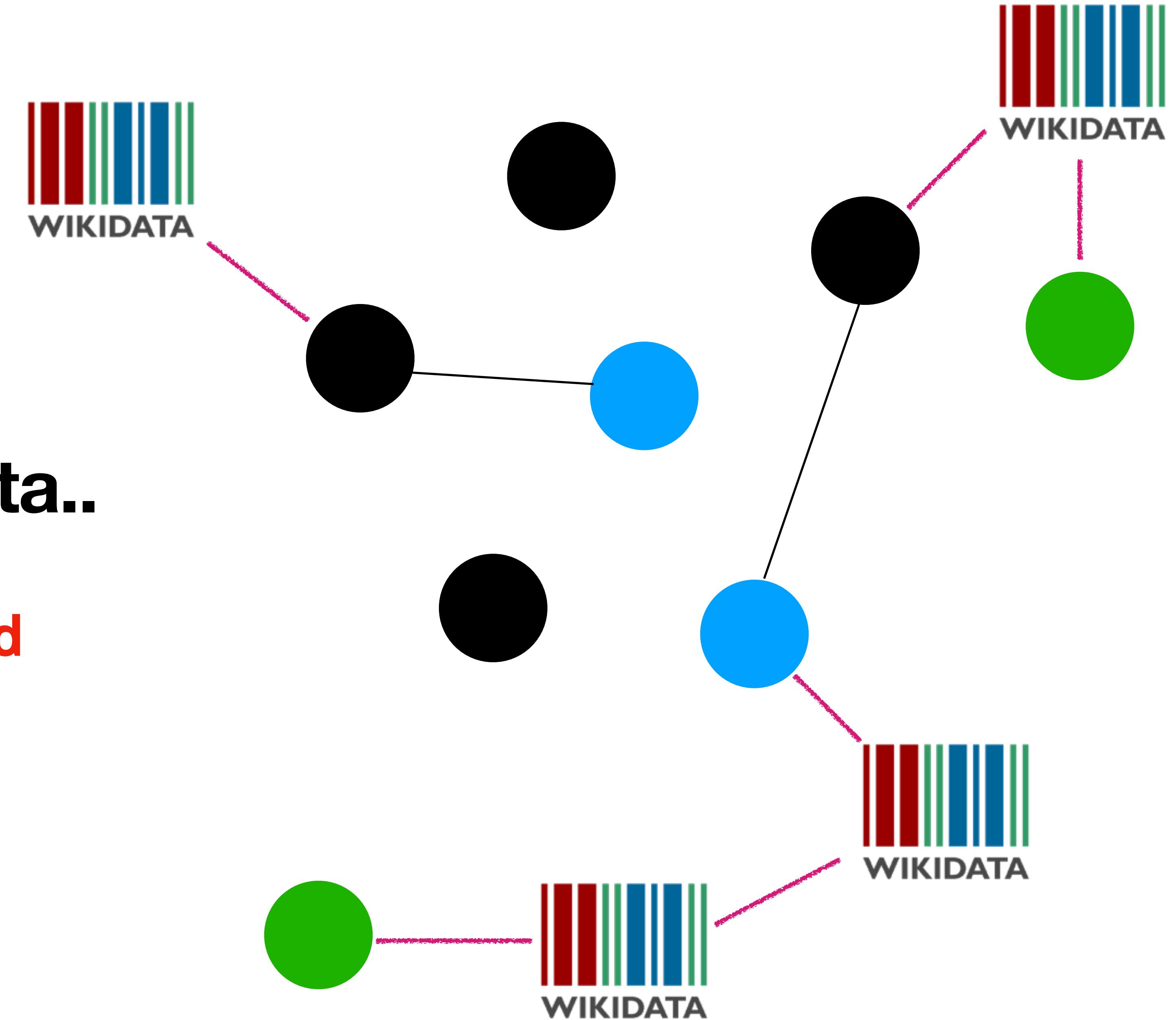
GI Severin | Zvezda Research and Production Enterprise

Soyuz 11 (Q648581)

Manned Soviet space mission to the Salyut 1 Space Station

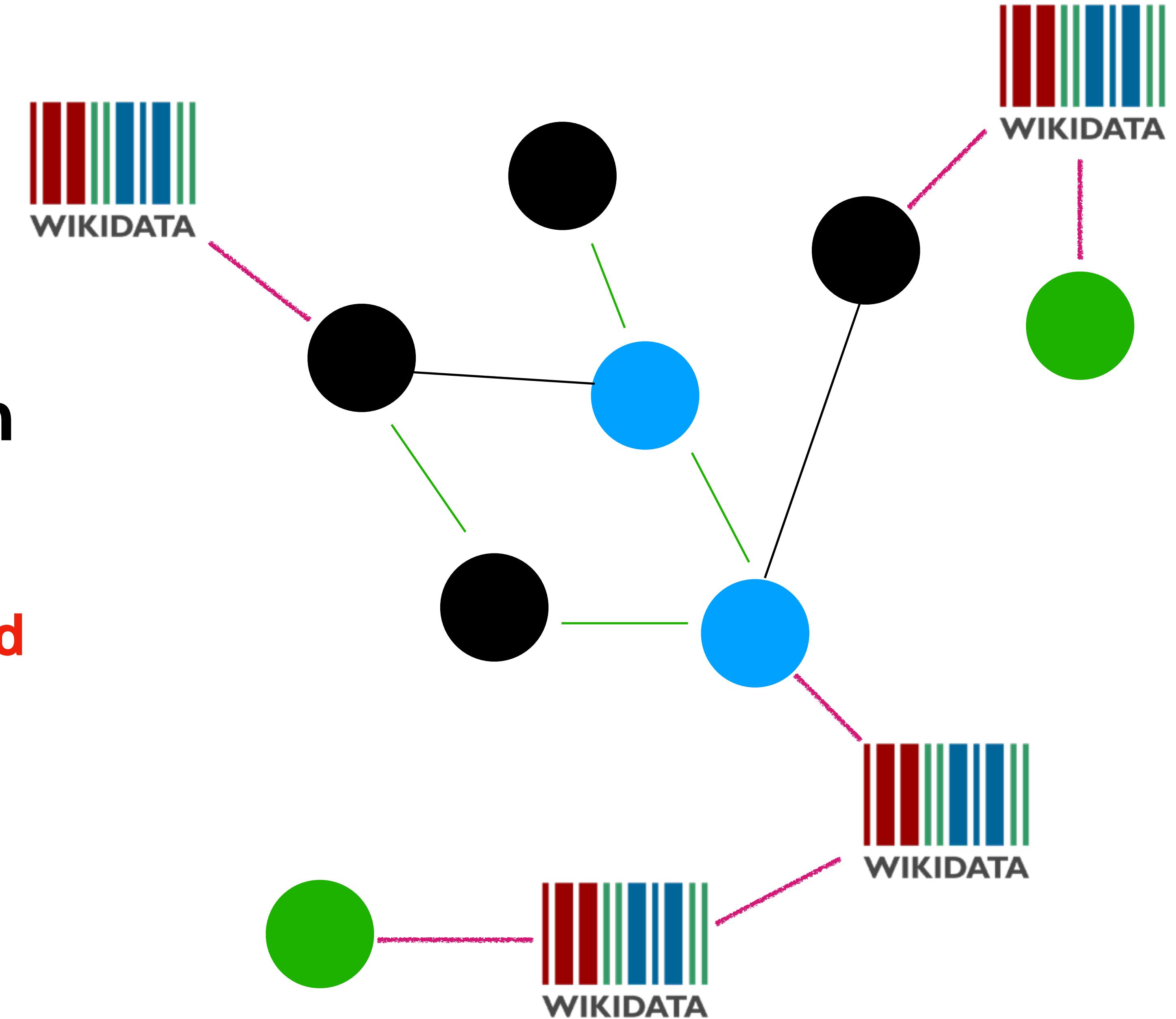
**This is our collection
connected to Wikidata..**

**Small islands of connected
data**



**This is our collection
interlinked via
information extraction
techniques..**

**Small islands of connected
and interlinked data**

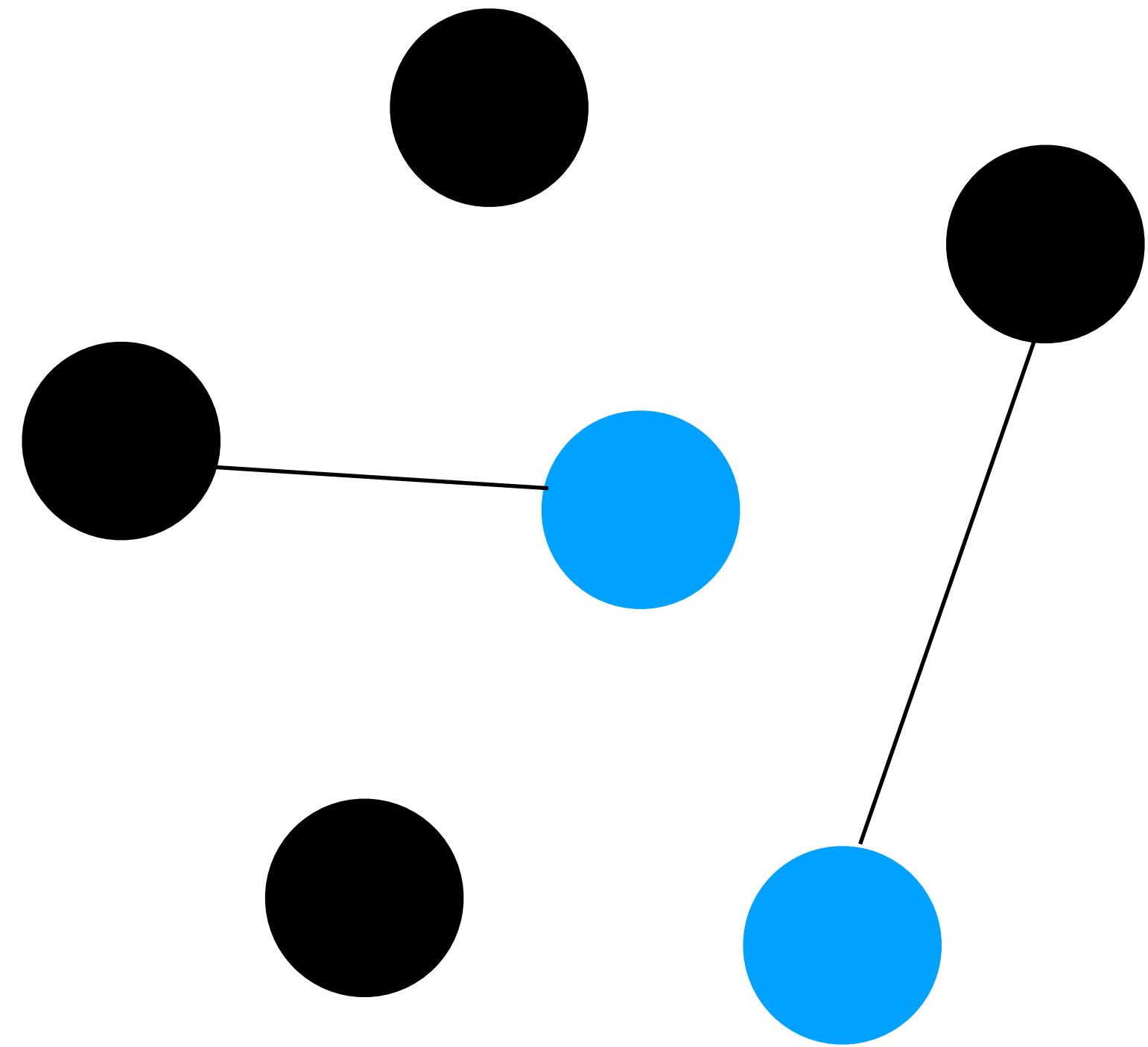


HERITAGE CONNECTOR PROJECT

1. Knowledge graphs
 2. Linked data
 3. Artificial intelligence
-
1. Improve collection interfaces
 2. Improve discovery
 3. Improve links to other data sources

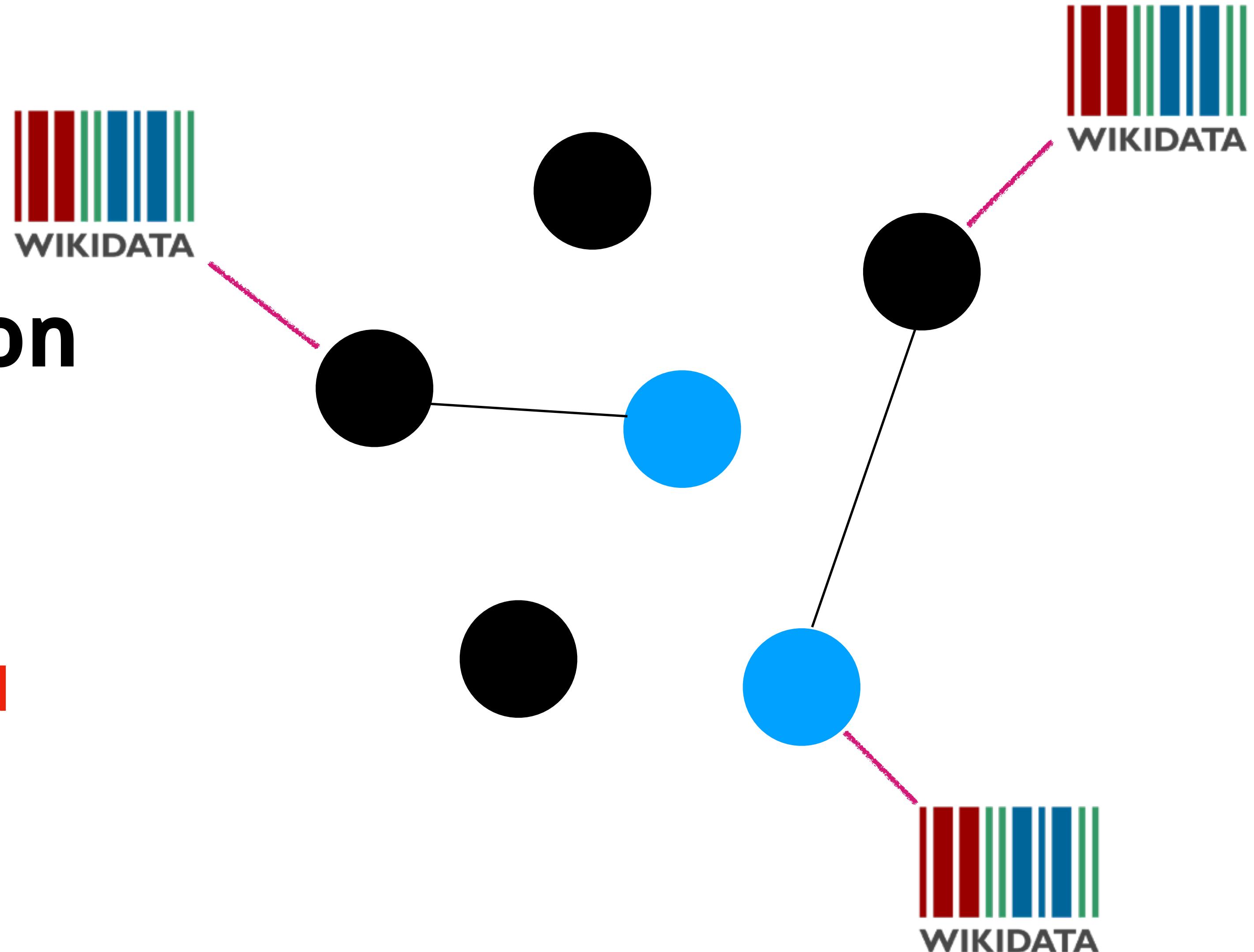
**This is our collection
now..**

Small islands of thin data



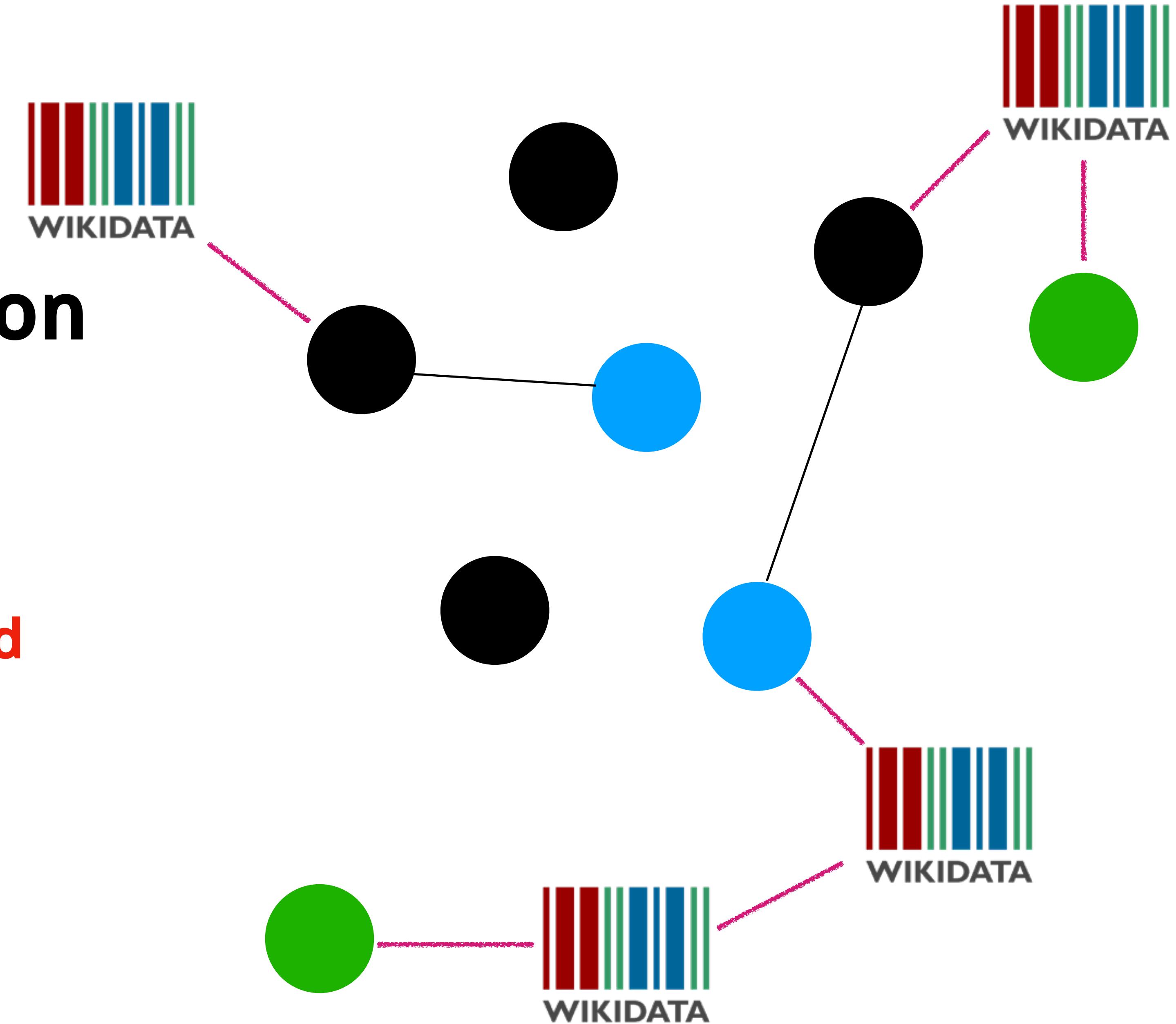
**This is our collection
connected to
Wikidata..**

**Small islands of connected
data**



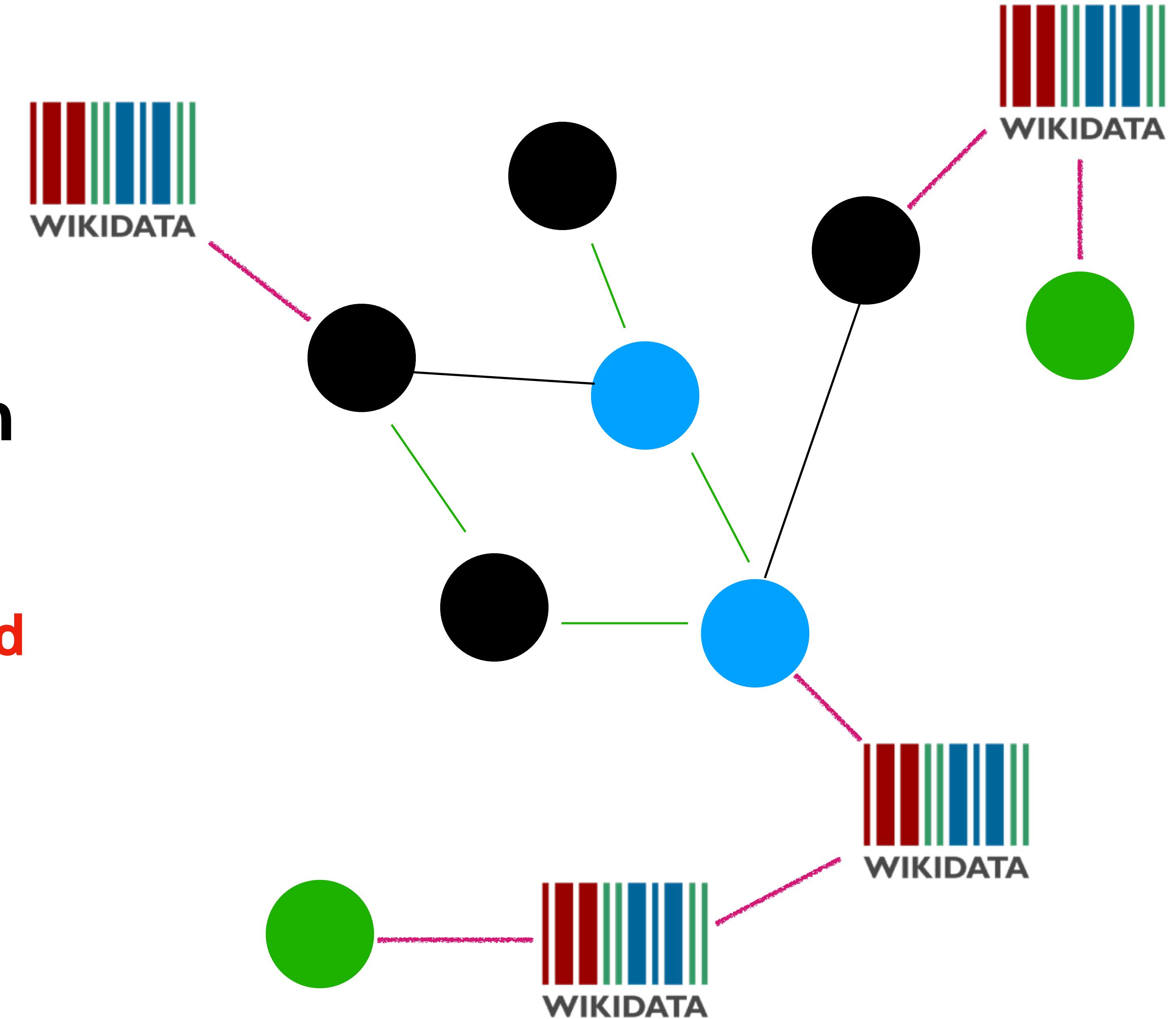
**This is our collection
connected to
Wikidata..**

**Small islands of connected
data**



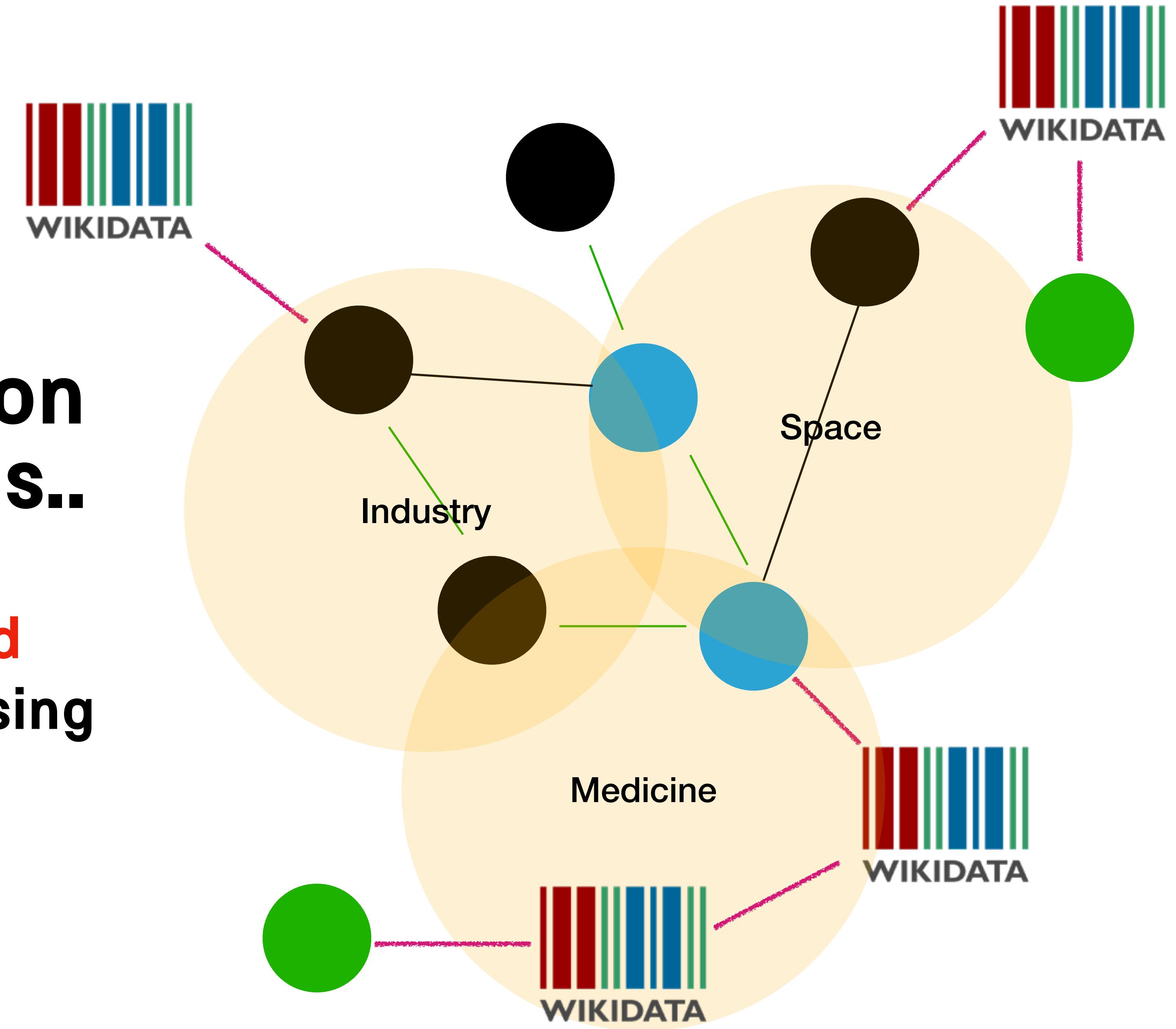
**This is our collection
interlinked via
information extraction
techniques..**

**Small islands of connected
and interlinked data**



**This is our collection
with new groupings..**

**Small islands of connected
and interlinked data exposing
new groupings**



BENEFITS

- Human resources are limited, especially expert ones
- Introduce new topics and themes not inherent in our current data
- Enrich specific types of records/objects with additional data
- Stop our record pages becoming ‘dead ends’ to users.
- Use linked open datasets to create new forms of research and discovery..

THINGS WE'RE EXPLORING NEXT

- What forms and levels of data which although not perfect are good enough to prove useful?
- What techniques are be best used to build these new relationships and groupings at scale?
- How might confidence in these relationships impact on their usefulness?
- Where is the best use of human input in supporting such an approach?
- What gaps and biases emerge when these relationships are created, and which hitherto unexpected connections are made?