
universität wien

JOHANNES GUTENBERG UNIVERSITÄT MAINZ


Univerzita Karlova

Botanischer Garten Berlin

IPK LEIBNIZ-INSTITUT

naturhistorisches museum wien

TECHNISCHE UNIVERSITÄT DRESDEN


FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

EBERHARD KARLS UNIVERSITÄT TÜBINGEN


UNIVERSITÄT LEIPZIG

Universalmuseum Joanneum


MORAVSKÉ ZEMSKÉ MUZEUM


NÁRODNÍ MUZEUM


MARTIN-LUTHER-UNIVERSITÄT HALLE-WITTENBERG


JACQ

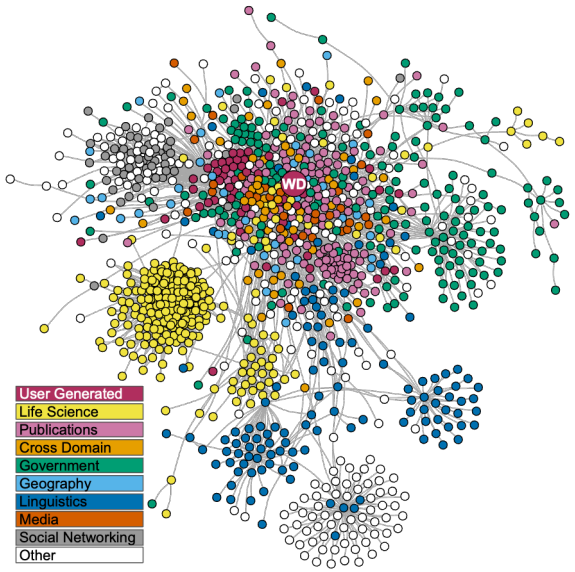

universität ulm

CETAF-ISTC Meeting,

Bonn 07.04.2025

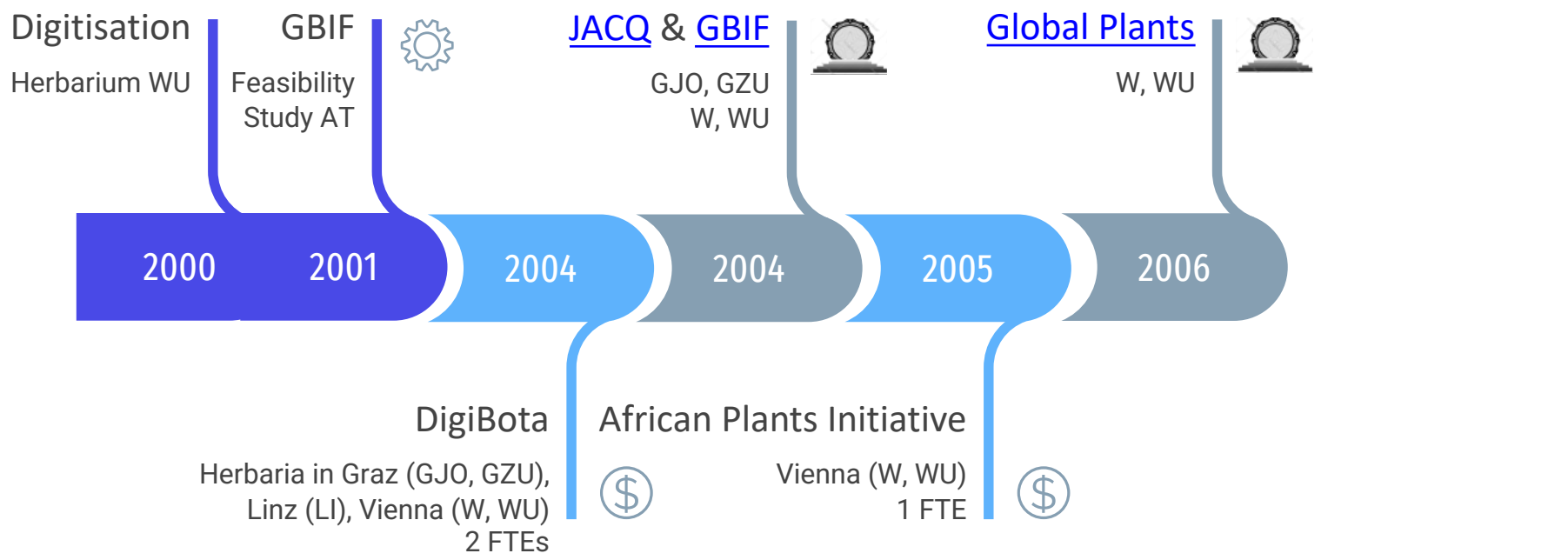
System Chronology: SW, HW, Digital Imagery

	pre 2000	2004	2009	2012	2014	2017 ff.
Software	MS Access	LAMP		Yii/Yii2		JavaEE
Components	• Standard SW • All In One • non public	• PHP4/5 Custom Code • distributed • MySQL 4.5 • UTF-8		• PHP Framework • MySQL 5.5		• Service Based WildFly, Apache, JSF (Primefaces), JPA, CDI, JAX-RS • MariaDB 5.5.7
Hardware	PC	Physical Server & Client		Develop Input Access Web		Virtual Infrastructure
Imagery	local File-System		Images Server Instances			Archival non Archival



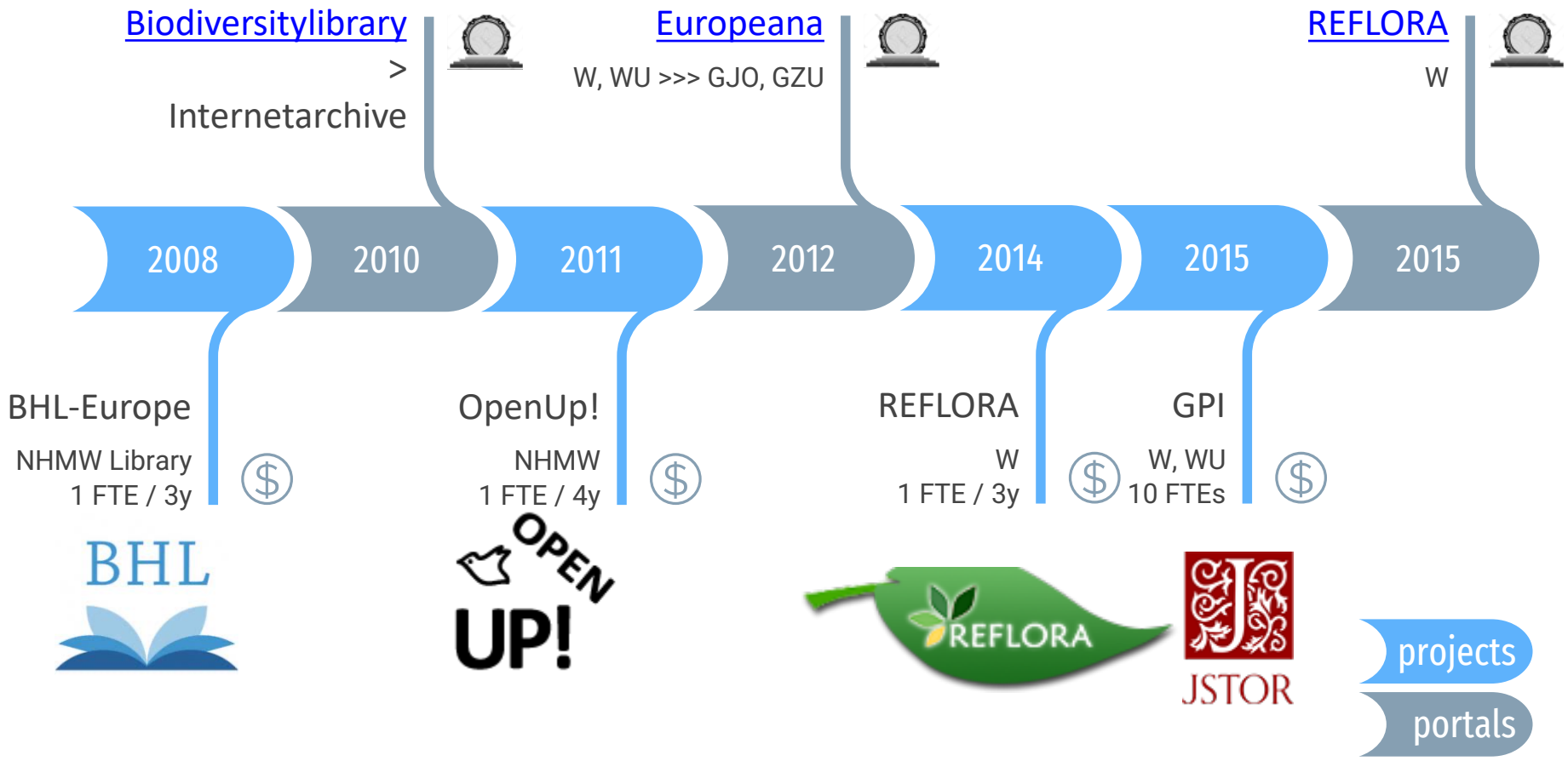
Digital Transformation

Timeline in the Process



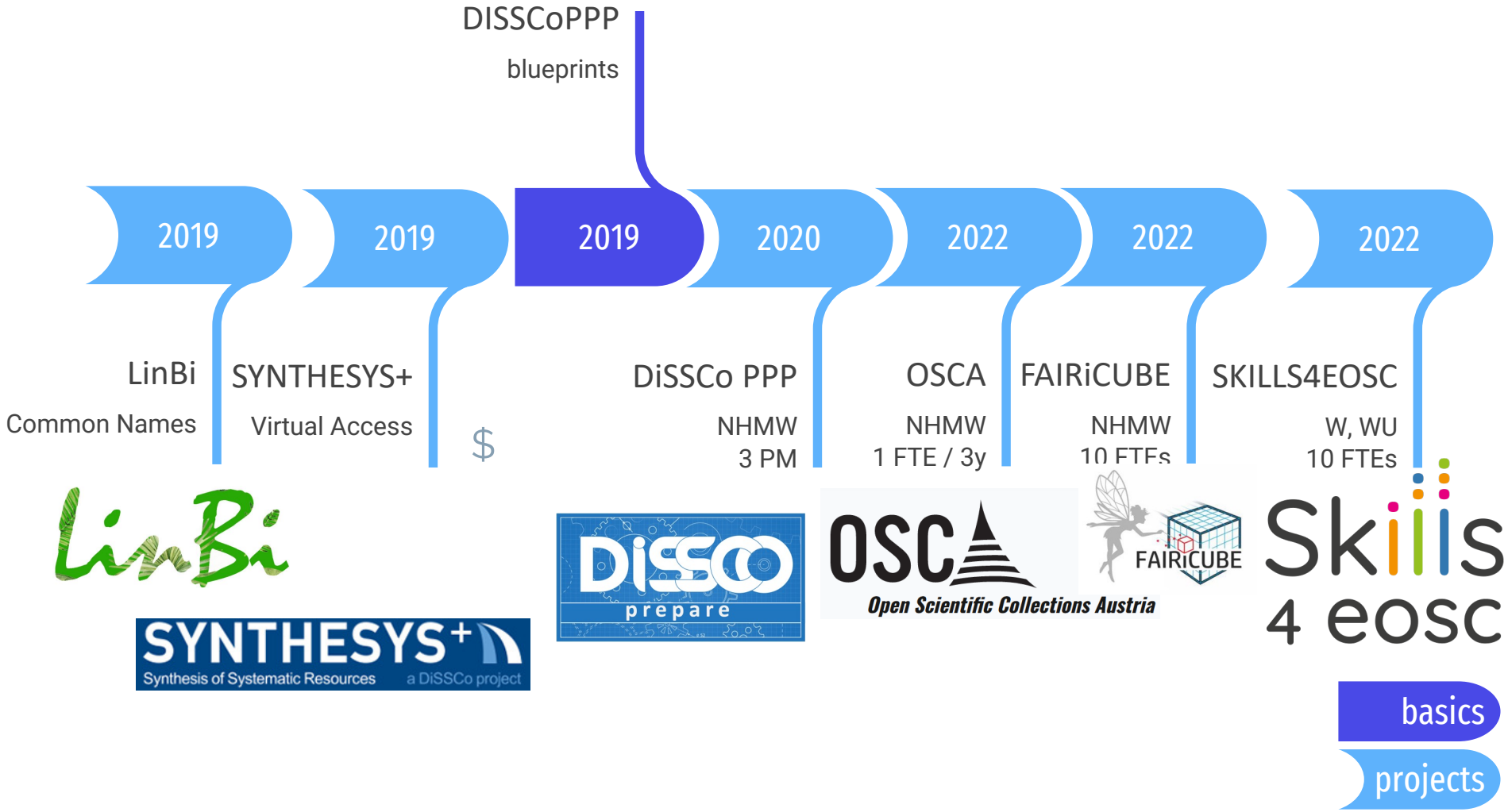
Digital Transformation

Timeline of developments in the Process



Digital Transformation

Timeline of developments in the Process



JACQ Konsortium

Herbarien*

2000 **WU°** | 2004 **W°** | 2005 **GZU°** | 2008 **HAL°** / **JE°** / HerbDrogMus / H-Pilsl | 2009 **TGU** // 2011 **MJG** / KUFS
2012 **BRNU** / **KFTA** / **LAGU** / **LW°** / **LWKS°** / **LWS°** / **LZ** / Univ. Tunceli Turkey
2013 **BAK** / **CHER°** / **GAT** / **HERZ°** / **LECB°** / **PRC°**
2014 **B°** / **ERE°** / **NS** / **NSK** | 2015 **FT°** / **TBI** / **TMRC** / **UBT°** / H-Willing | 2016 **MHES** / **SARAT**
2017 **ADMONT** / **DR** / **GJO** / **NBSI** / **PI** | 2018 H-Gutermann / H-Sauberer | 2019 CBH / **PIAGR**
2020 **BATU**, **BOZ**, KIEL, **TUB**, **UPA**; 2021 BEOU, **BP**, PAV, TO; 2022 **HAJB**, **PR**, **ULM**; 2023 **TGM**;
2024 BRNM, **HBG**, KL, **SZU**, SIENA; 2025 LUCCA, MRSN

Botanische Gärten

2014 University Vienna (Hortus botanicus Vindobonensis HBV)
2017 Federal Gardens Schönbrunn
2018 University of Salzburg
2021 Die Garten Tulln

* abbreviations following Index Herbariorum http://sweetgum.nybg.org/science/ih/
° GPI grant holders https://plants.jstor.org/

JACQ Virtual Herbaria / Gardens

content / 20250317

specimens 2.262.869 / 210.361 taxa / 898.089 specimens with images
1.610.879 dicots / 403.849 mononcots / 248.141 gymnosperms & ferns & cryptos
Types **194.327** / typified names **96.857** (Genera, Species and infraspecific)
living plants 53.303 / 19.011 taxa

scientific names 463.856 / genera 39.845 / families 3.740

nomenclatoral authors (incl. combinations) 127.702 – IPNI 41.714
collectors and teams 43.821 / 23.609

literature citations 35.886

synonyms 297.707 (= link from synonym to accepted taxon)

classifications 134.833 child-parent-relations from 3.605 references

JACQ Semantics

Scientific Names IDs

163.717 (35,29 %) of 463.855 scientific names are linked to external services by 234.817 identifiers covering 1.748.971 (77 %) specimen records

Count	sourceID	Service Name
91.511	51	GBIF
39.259	1	IPNI (K)
29.952	10	Euro + Med Checklist (B)
28.812	21	Flora do Brasil - lista de espécies (RB)
10.505	2	TROPICOS (MO)
10.235	3	Index Fungorum (CABI)
8.057	57	World Flora Online
6.188	12	World Checklist Series (K)
4.760	45	Flora de Cuba (BGBM Cybertax)
1.931	11	Flora Base - Western Australian Flora (PERTH)

JACQ Semantics

Person IDs

3.964 (10,49%) of 38.719 Person Names are linked to external services by
11.964 identifiers / 8.345 unique
covering 701.480 (37,43%) specimens

number	unique	source
4.882	3.533	HUH Botanists link
4.247	2.843	WIKIDATA link
3.570	2.282	Virtual Internet Autority File – link
2.309	1.109	Bionomia link
242	158	ORCID link

JACQ Facts & Networks

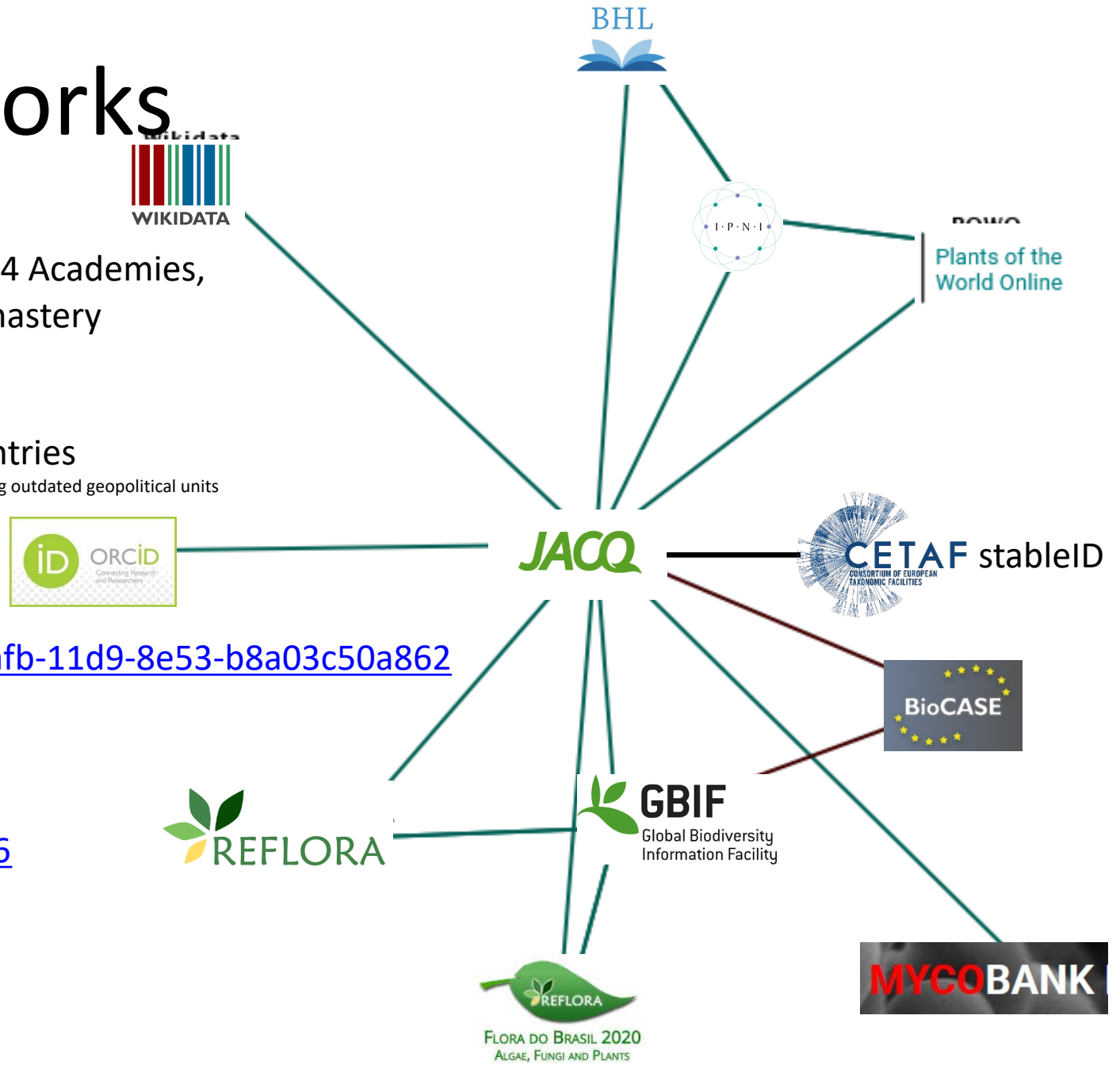
60 Herbaria 18 countries
35 Universitys, 10 Museums, 5 bot. Gardens, 4 Academies,
5 Research Performing Organisations, 1 Monastery

2.181.284 CETAF stable IDs
collected by 34.316* persons and 250** countries
not deduplicated
including outdated geopolitical units

GBIF host for 15 Institutions of 7 countries
https://www.gbif.org/publisher/58520c30-bafb-11d9-8e53-b8a03c50a862

FAIRsharing.org
standards, databases, policies
https://doi.org/10.25504/FAIRsharing.e28856

FAIRsharing Network Graph
https://fairsharing.org/graph/3329



JACQ

Preparation for mass digitisation:

- Complete copy of table structure for import area
- After review by the curator, the data is migrated to the live system
- Still mandatory fields that may not be available in this context

Preparation for DiSSCo connectivity: export/import

- Via BioCASe and ABCD JACQ data can be harvested into DiSSCo
- Work in progress: Define and develop more services to export and import data

Can JACQ also be used by others, if so, how and with what effort?

- Yes
- Letter of indent
- Start entering data is possible within a few days
- Data import from old databases or Excel files