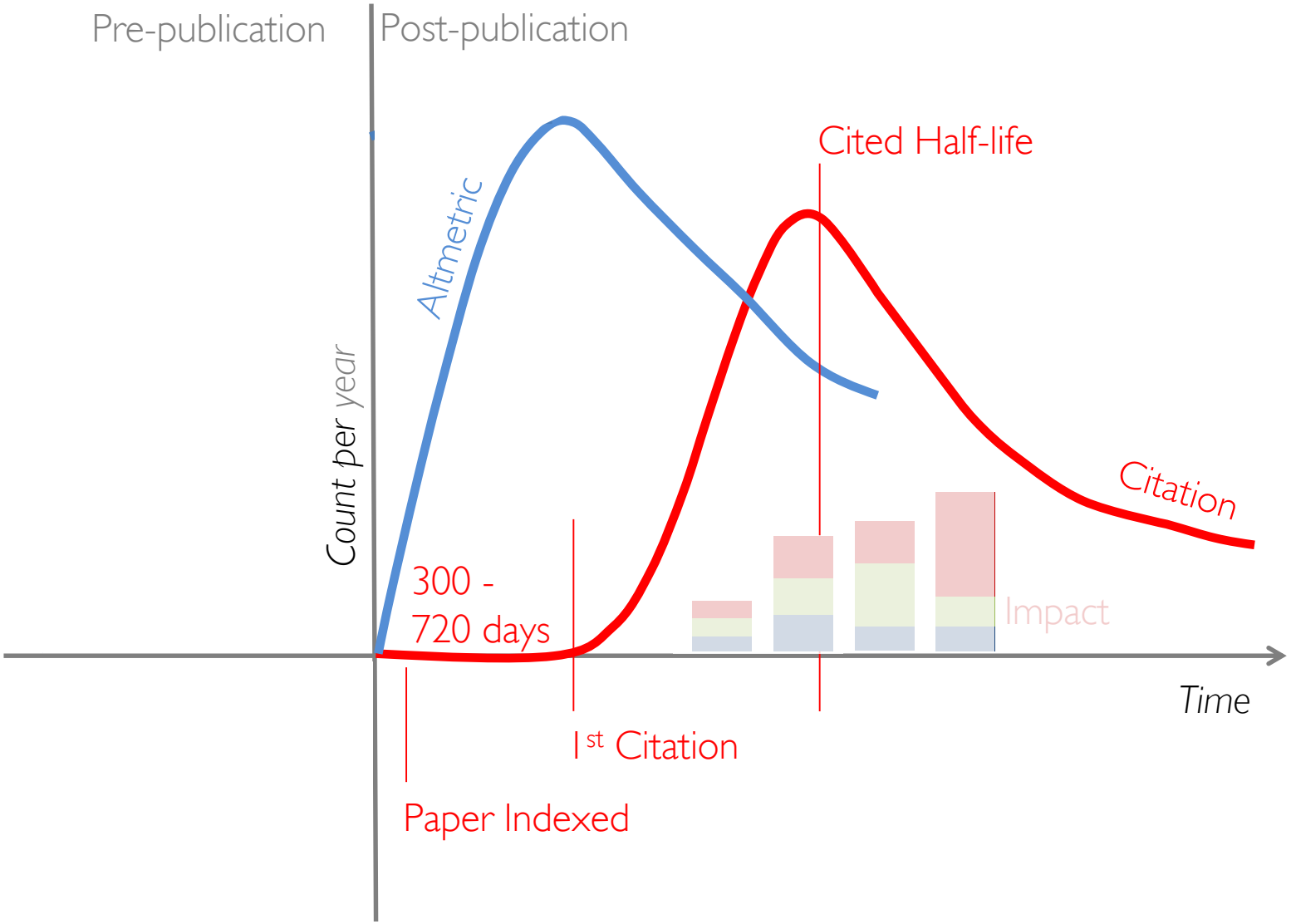
BLOCKCHAIN

for Science: the evidencing of research for impact

區塊鏈在學術傳播的應用: 為研究過程留下足跡

Wong Woei Fuh
ies Research Consulting, Singapore

Source: Research Impact, http://www.uq.edu.au/research/impact/ the University of Queensland, Australia


Pre-publication
Post-publication
Count per year
Altmetric
Cited Half-life
Citation
300 -
720 days
Impact
Time
1st Citation
Paper Indexed

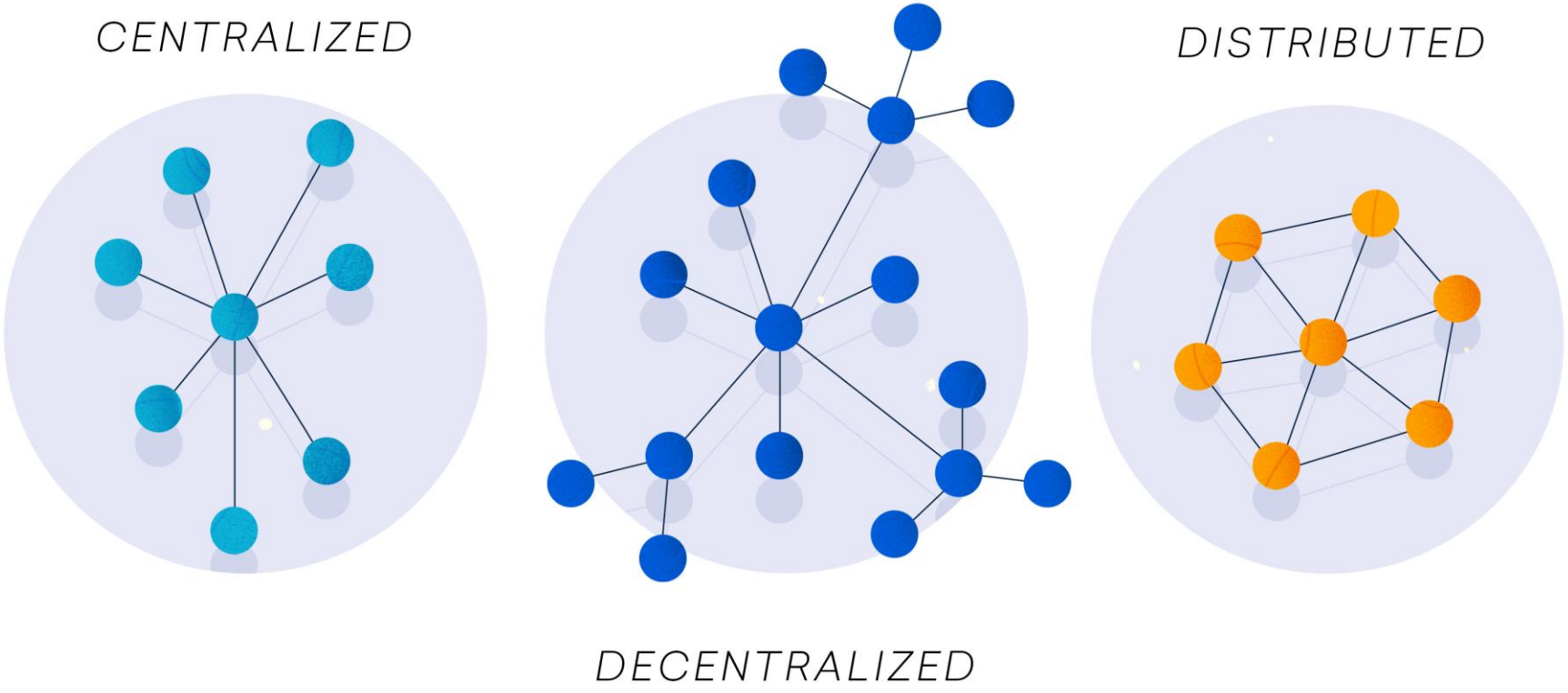
"What is the difference between Blockchain and Distributed Ledger?"

"So, what is Blockchain?"

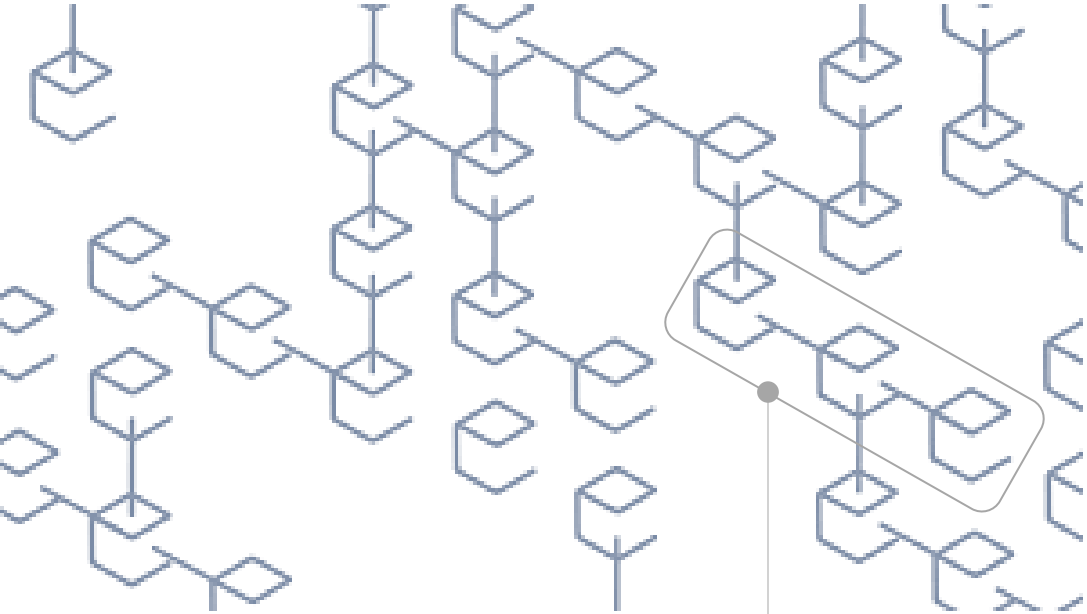
"Can Blockchain replace DOI (digital object identifier)?"

The digging deeper questions

"What is the difference between Blockchain and Distributed Ledger?"



"So, what is Blockchain?"



- Blockchain is just one type of distributed ledger
- But Blockchain is a sequence of blocks, distributed ledgers do not require such a chain

- Blockchain refers to the blocks (of data) that get added to the chain of transaction records
- To facilitate this, the technology uses cryptographic signatures called, a hash

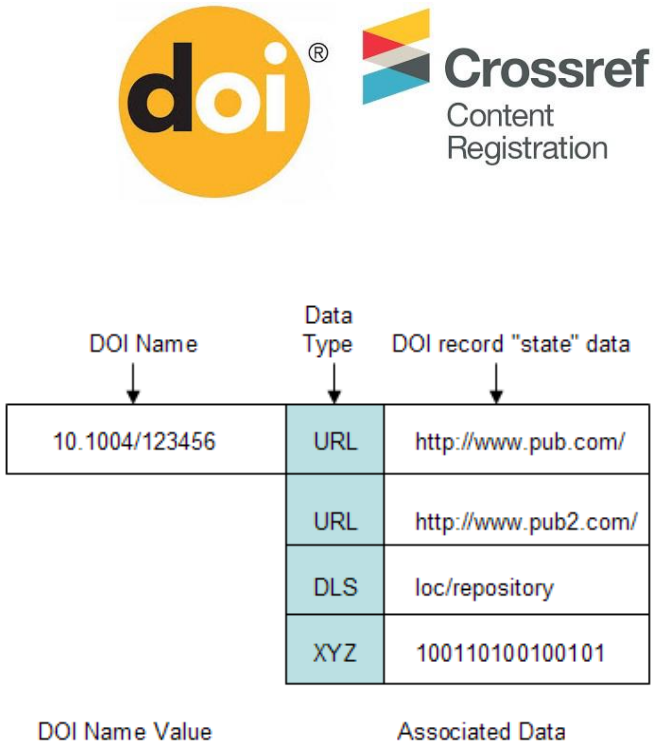
SHA1 Data & Hashes

Data: **Hello**
Hash: **f7ff9e8b7bb2e09b70935a5d785e0cc5d9d0abf0**

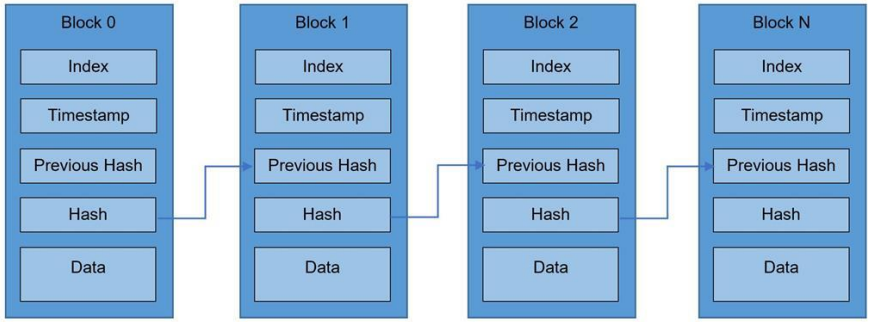
Data: **The quick brown fox jumps over the lazy dog.**
Hash: **408d94384216f890ff7a0c3528e8bed1e0b01621**

Data: **1, 2, 3, 4, 5, 6, 7, 8, 9, 10.**
Hash: **99ed7eabae030ec036f35b16858af10fff840e53**

"Can Blockchain replace DOI (digital object identifier)?"



bloxberg
The Trusted Research Infrastructure



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DEUTSCH Search

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Organization	Country	Contact
Max Planck Society	**Germany**	Sandra Vengadasalam
University of Nicosia	**Cypress**	Soulla Louca
University College London	**UK**	Tomaso Aste
IT University of Copenhagen	**Denmark**	Roman Beck
University of Kassel	**Germany**	Walter Blocher
Georgia Institute of Technology	**USA**	Vijay K. Madisetti
Carnegie Mellon University	**USA**	Sevin Yeltekin
University of Johannesburg	**South Africa**	Maria Frahm-Arp
University of Sarajevo School of Economics	**Bosnia and Herzegovina**	Zlatko Lagumdzija
ETH Library at ETH Zürich	**Switzerland**	Sven Koessling
University of Belgrade	**Serbia**	Aleksandar Markovic

Research News > bloxberg: first international blockchain for science:

ıational blockchain for science:

ıibrary (MPDL) initiates global research project

ıation online and worldwide with no risk of manipulation: what almost sounds like hanks to the latest technologies and logical organization with the help of the infrastructure "bloxberg".

© MPDL

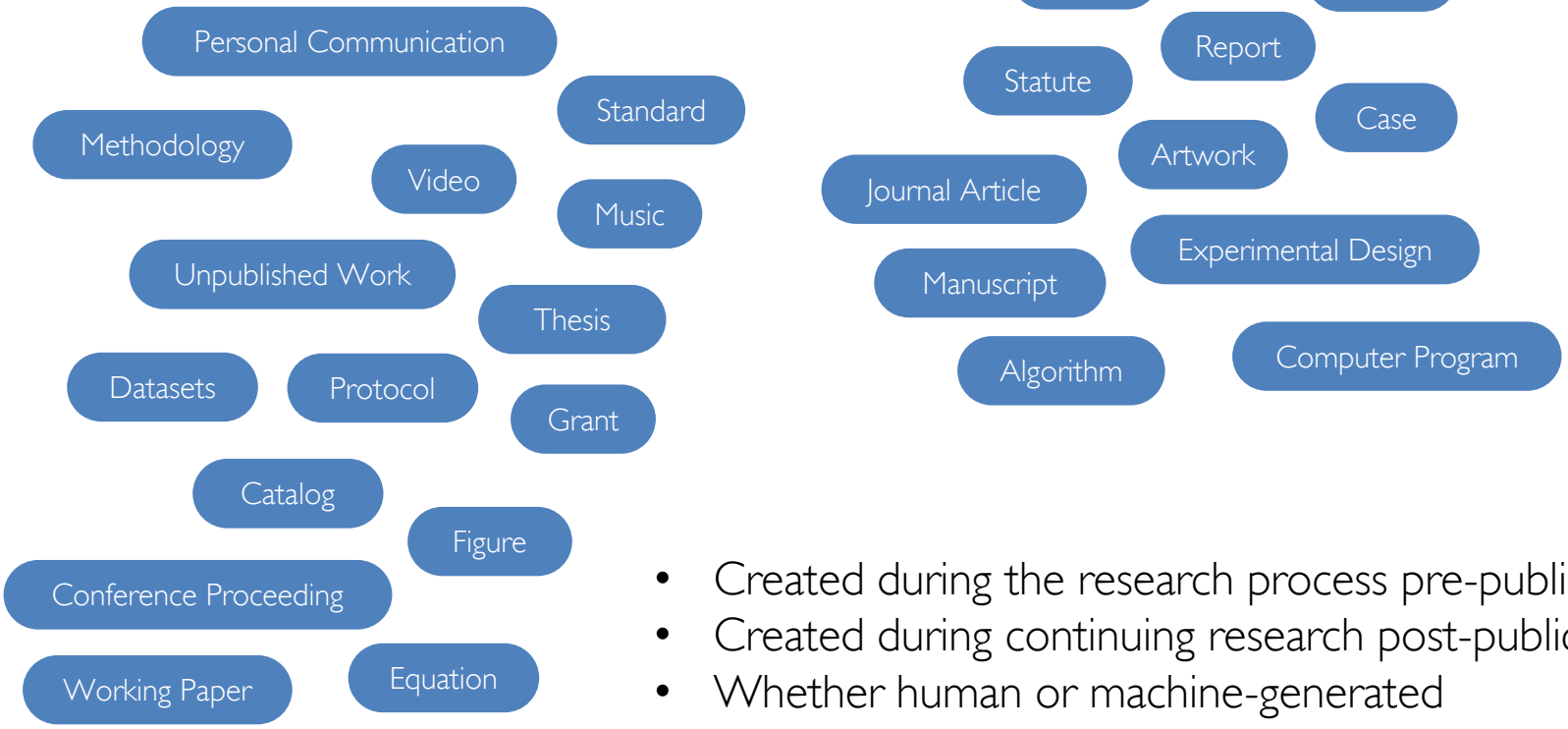
ıas initiated at the beginning of 2019 Max Planck Digital Library and consists facilities from ten different countries. The onsortium agree that bloxberg will ata and results will be managed and ith bloxberg, the consortium trusts in an ıssic client-server architecture, such as is . Instead, decentralised electronic s the blockchain technology, is used.

h concrete applications and demands for ne system based on blockchains in nticity of data, guaranteed protection of the exchange of valuable research results, peer reviewing, the publication of papers and

ur researchers that they would like to have a "time stamp" or a way to certify their and methods – particularly before these are published" – says Sandra Vengadasalam from ockchain technology thus appeared obvious".

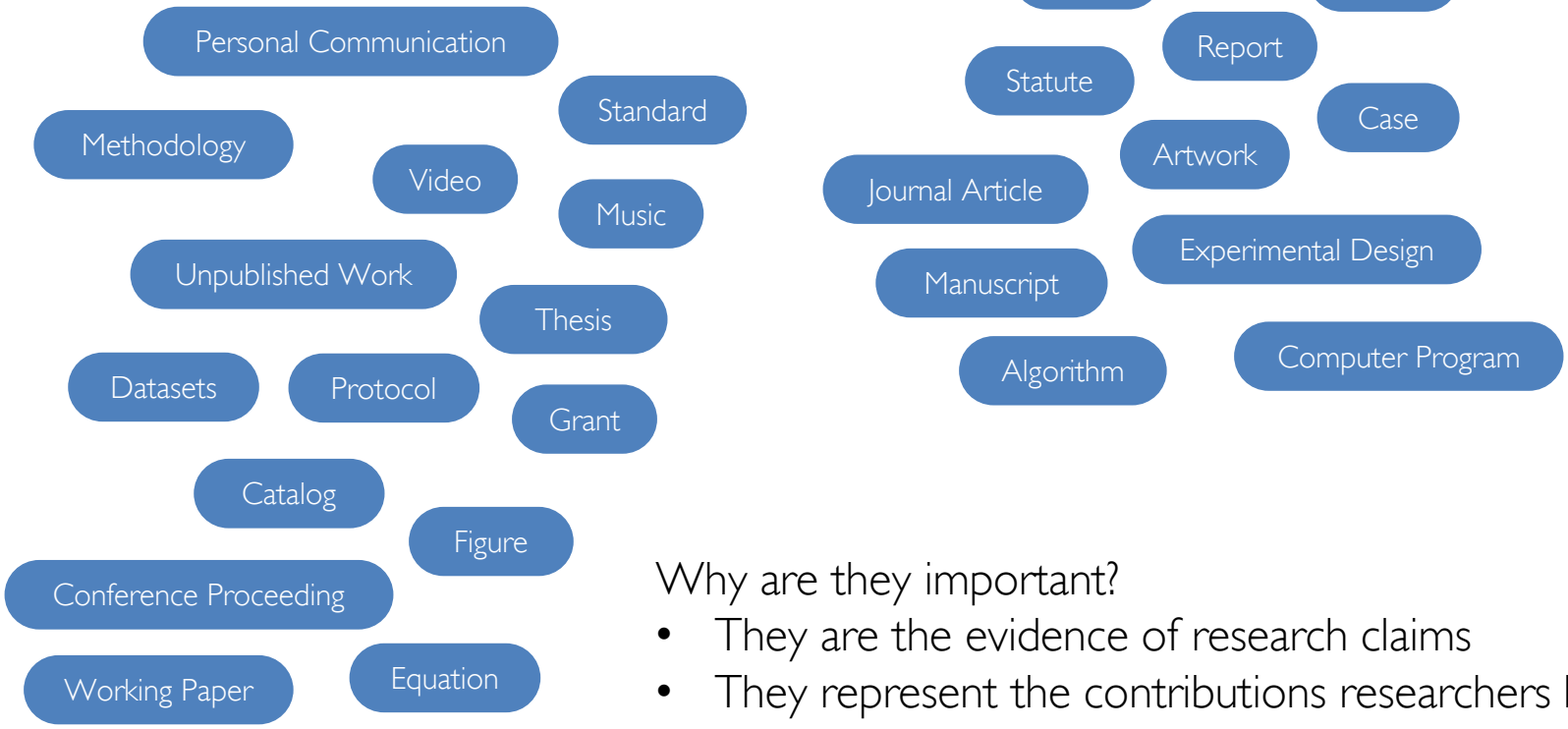
Source: https://www.mpg.de/13417668/first-international-blockchain-for-science-bloxberg

What are the research outputs (or artifacts)?



- Created during the research process pre-publication
- Created during continuing research post-publication
- Whether human or machine-generated

What are the research outputs (or artifacts)?

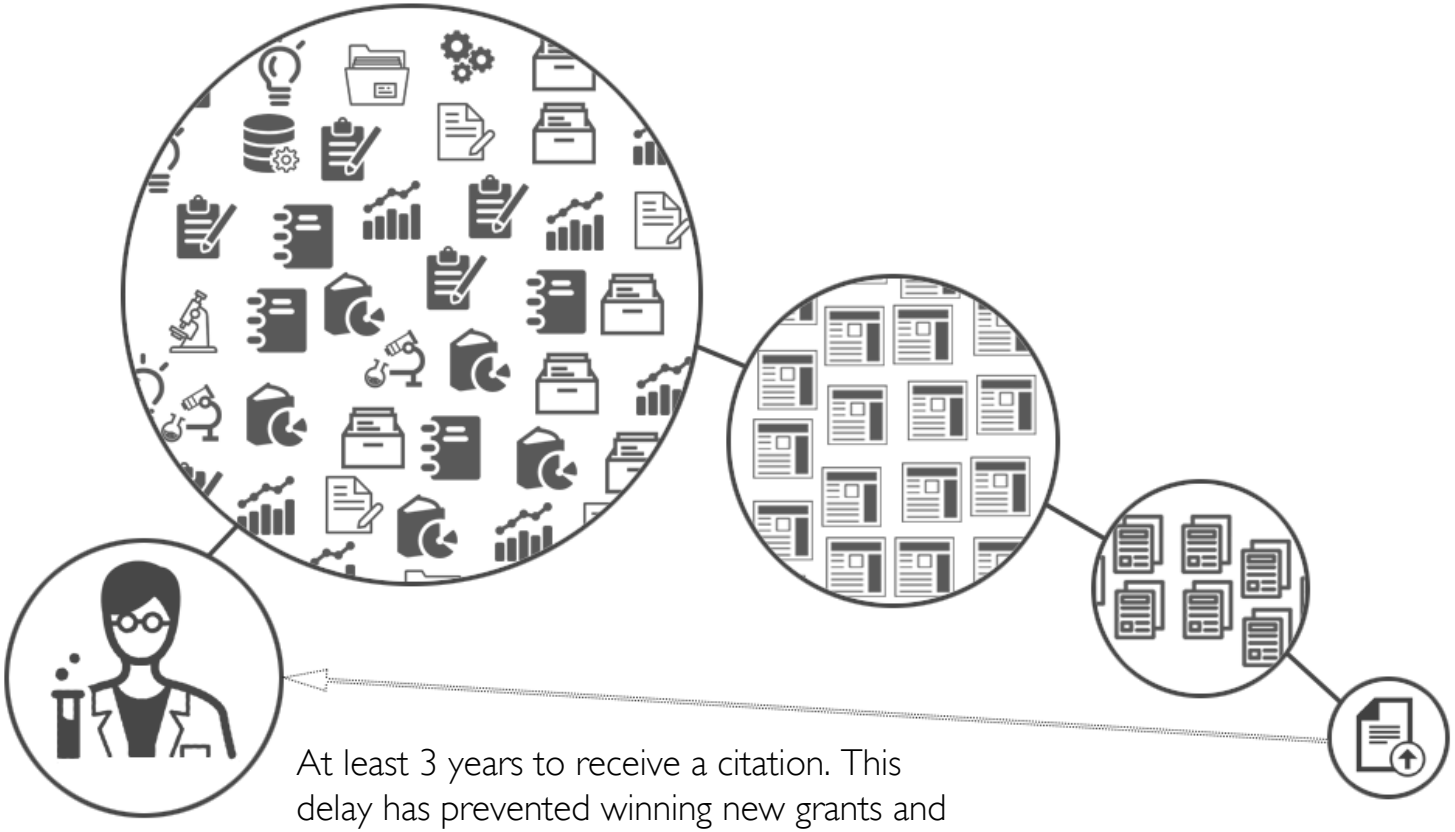


Why are they important?

- They are the evidence of research claims
- They represent the contributions researchers have made
- There are terabytes of this intelligence that never get accessed or linked with publications

Pain points without Blockchain

None of the research outputs (or artifacts) are linked with the published article. It is difficult for other researchers to build on



At least 3 years to receive a citation. This delay has prevented winning new grants and getting promotion

Blockchain improves: discoverability & reproducibility

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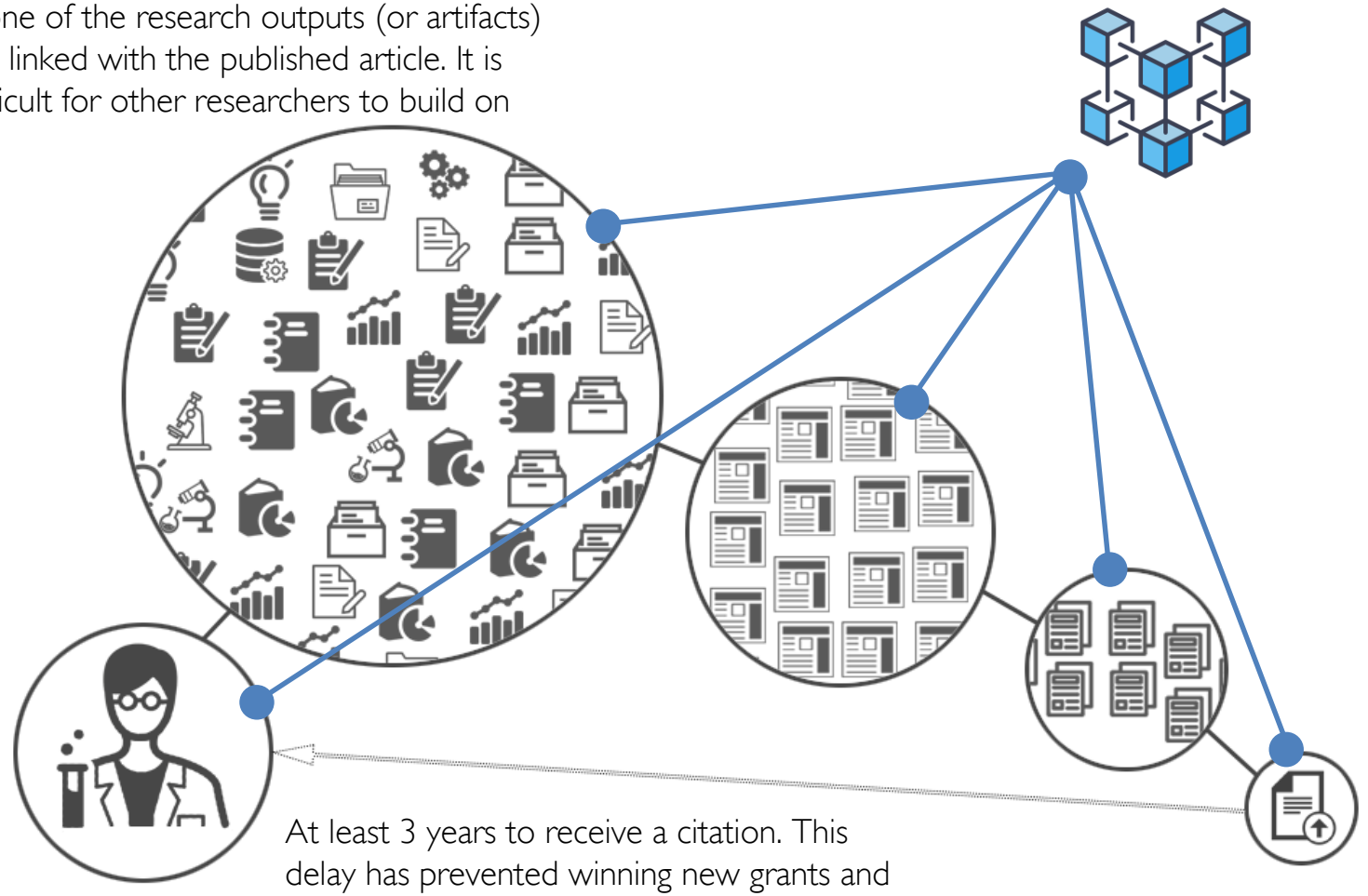

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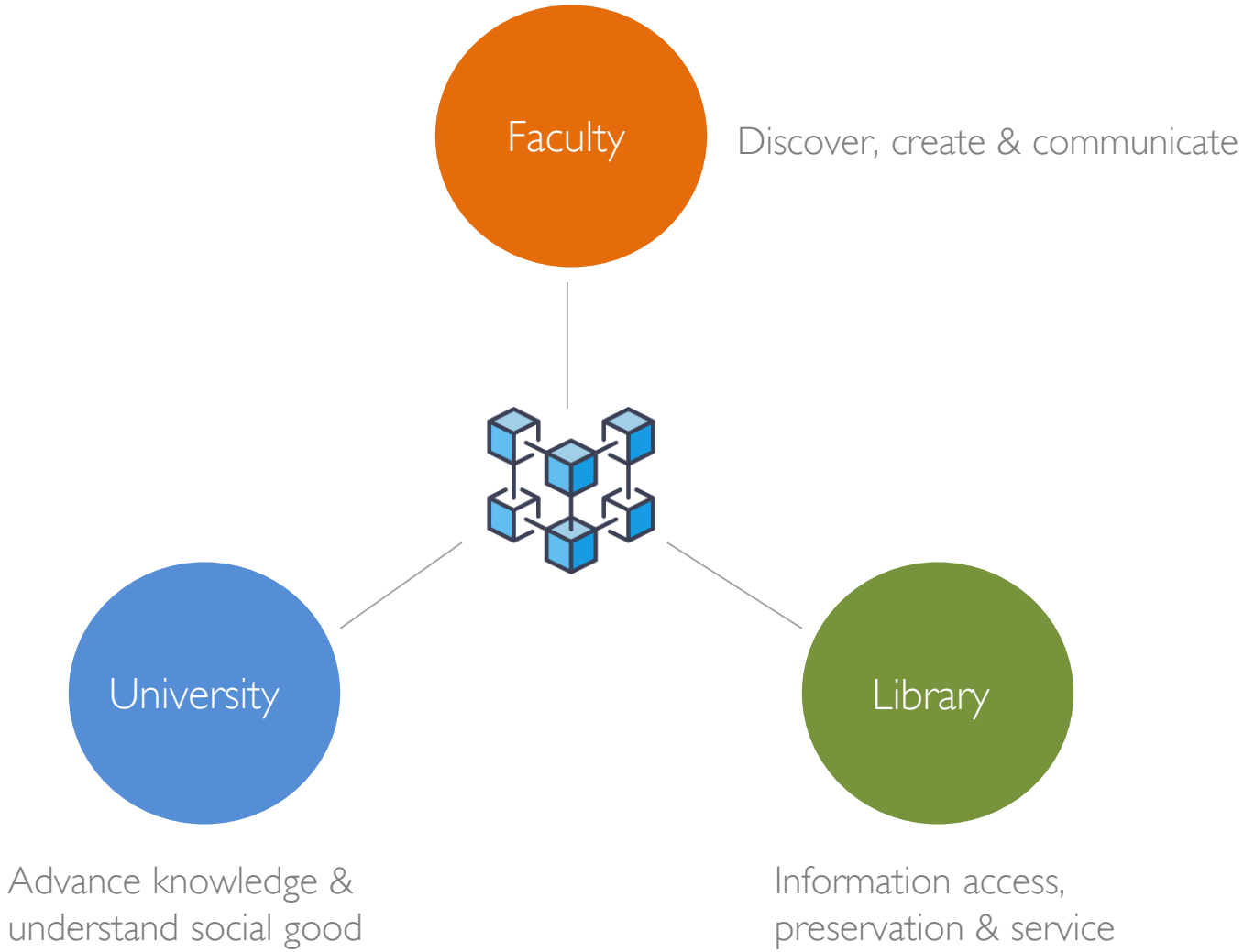
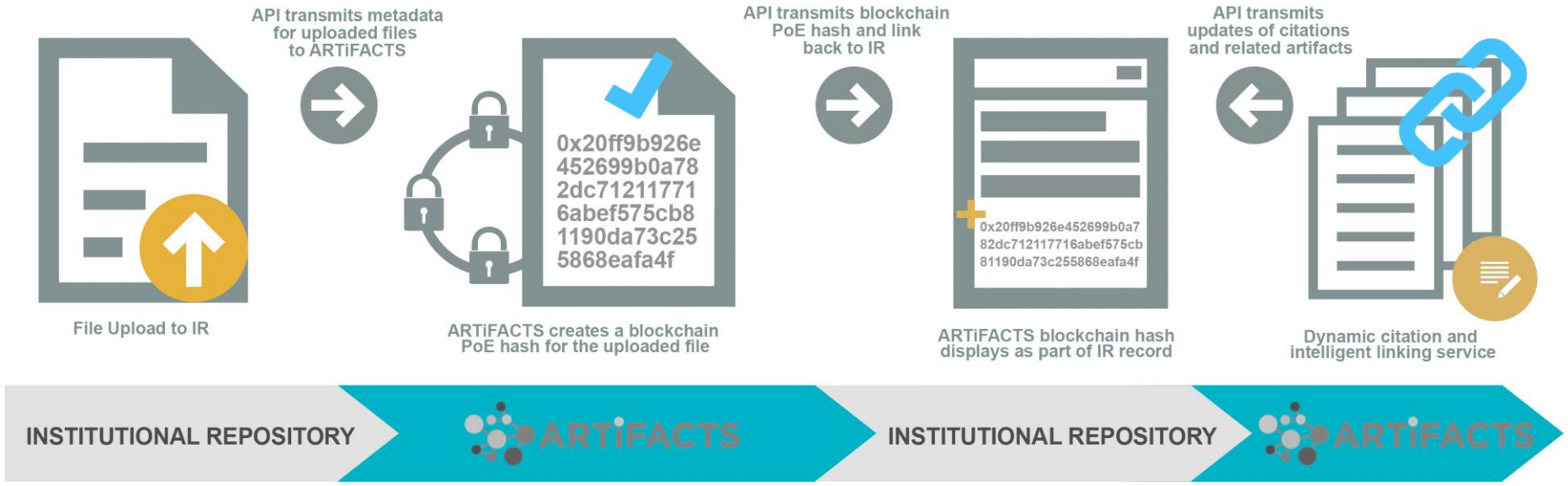
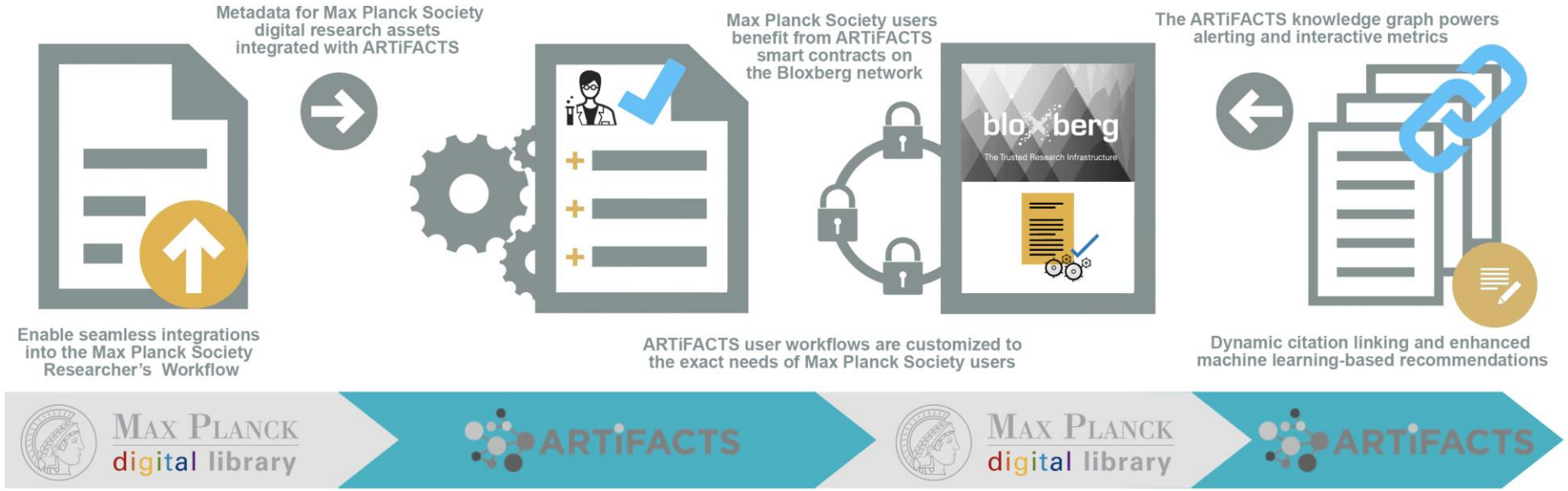

Faculty
Discover, create & communicate
University
Advance knowledge &
understand social good
Library
Information access,
preservation & service

Example: ARTiFACTS™ workflow for Institutional Repository (IR) integration



Example: ARTiFACTS™ workflow for Institutional Repository (IR) integration



MENDELEY DATA

figshare

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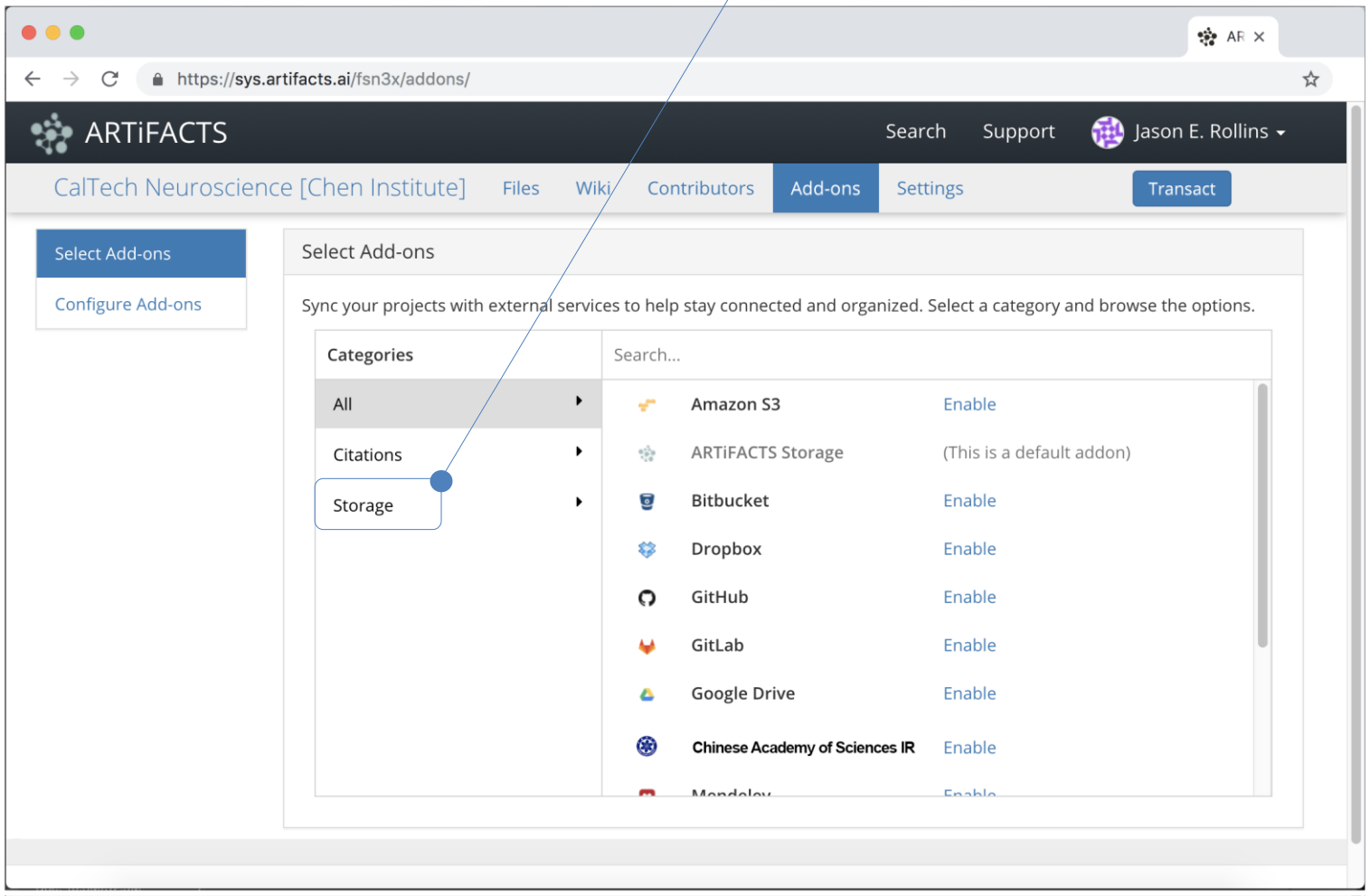
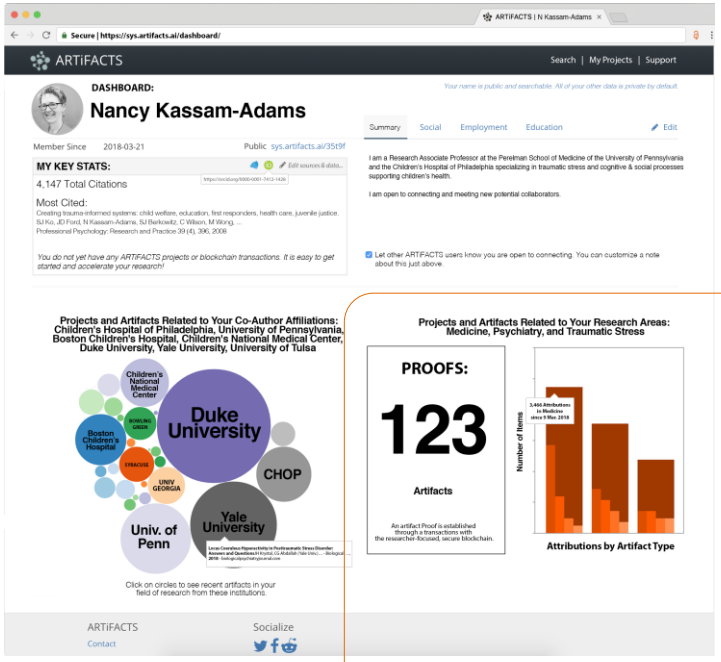


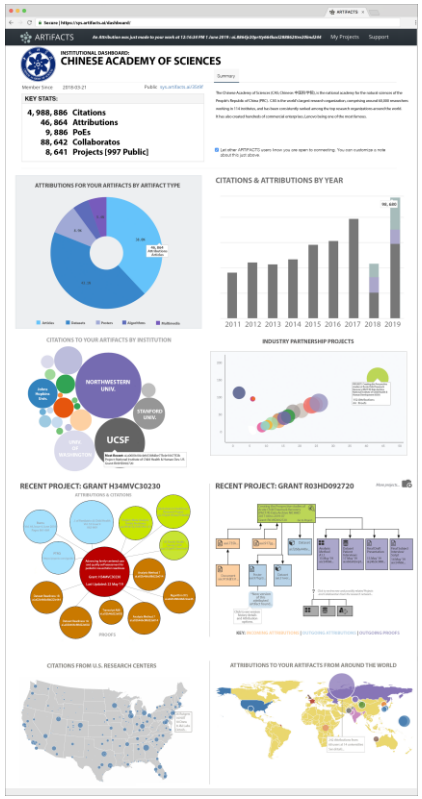
Research Dashboard



Co-authors

Proof of Existence (PoE) & citation metrics

Organization Dashboard

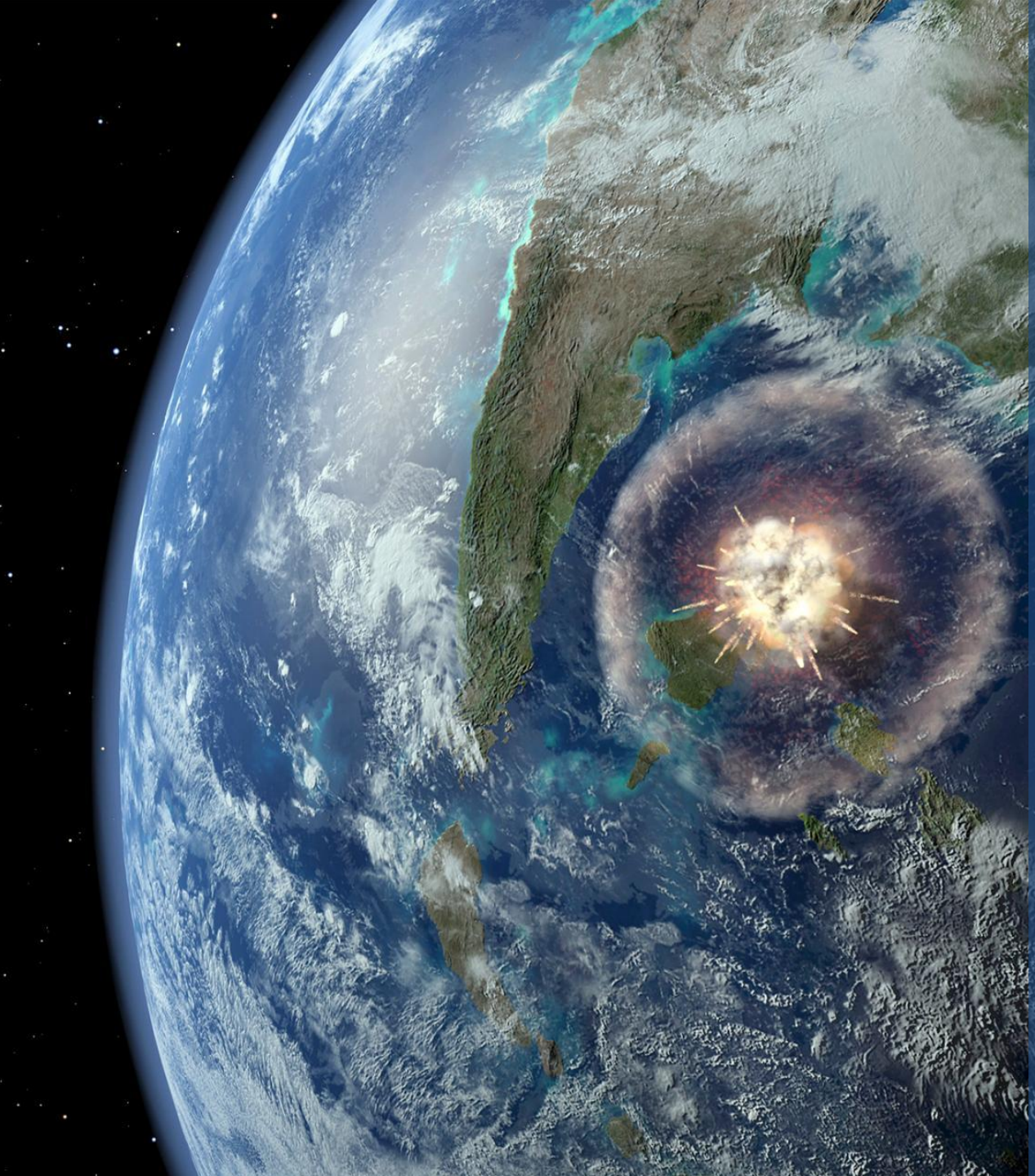


Citation & reputation indicators

Academic & Industry collaborations

Funded research projects & outputs

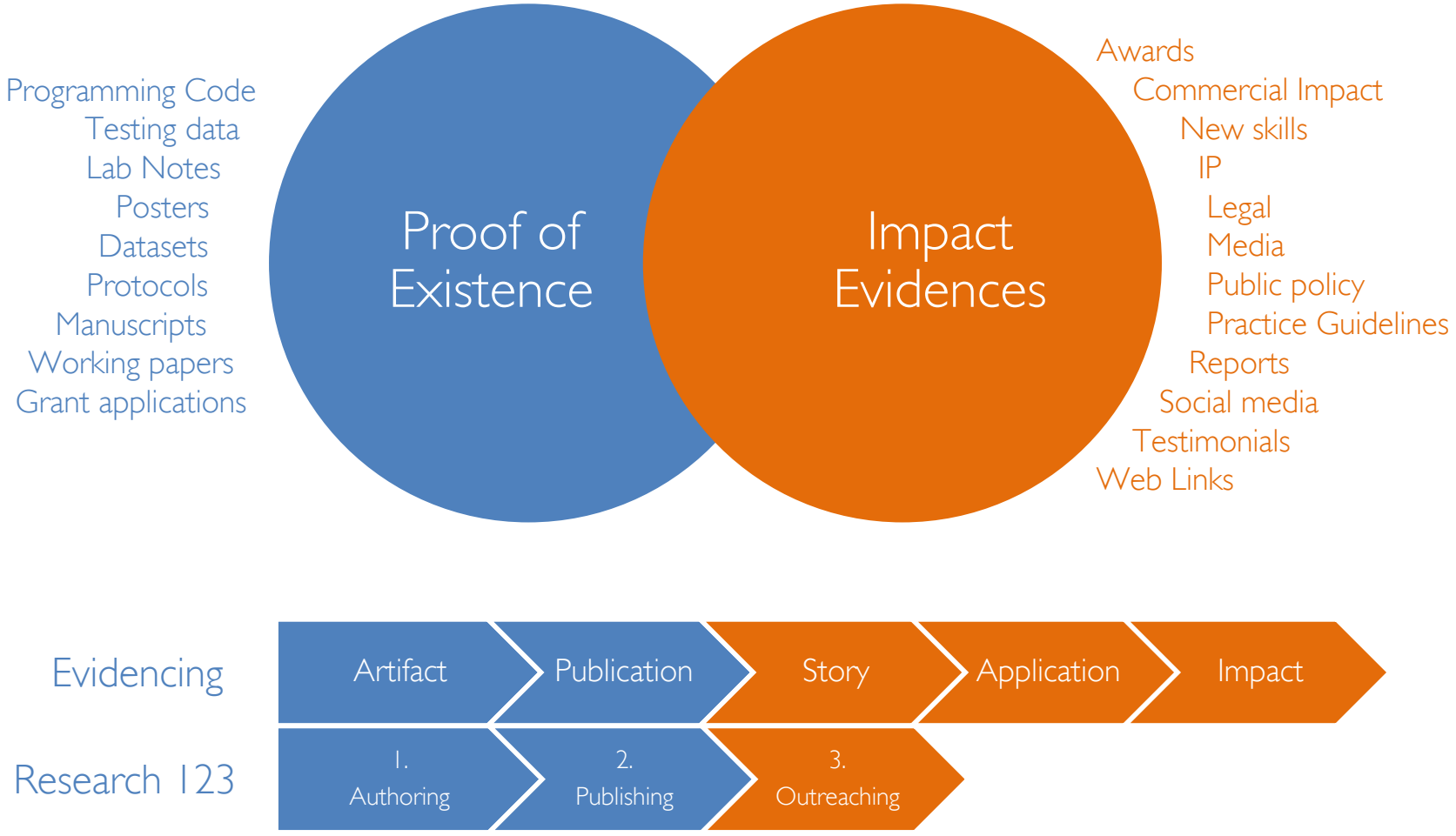
Global footprints

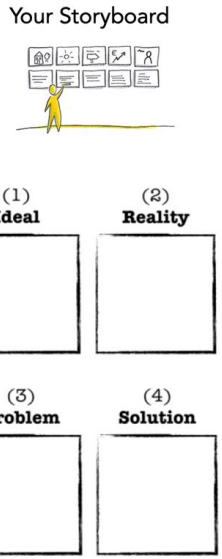


Impact Evidences

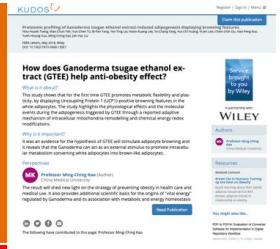
- Awards
- Activities
- Authoritative websites
- Charity reports
- Commercial impacts
- Corporate reports
- Government reports
- Institutional reports
- International collaboration
- Legal documents
- License agreement
- Media coverage
- Patents
- Policies
- Practice guidelines
- Public discussion
- Reports
- Debates
- Regulations & Standards
- Statistics
- Social/news media
- Surveys
- Testimonials

Evidencing your research

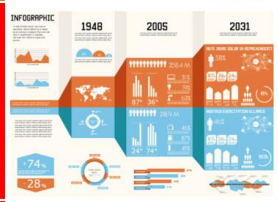




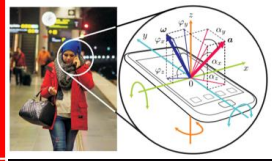
Plain Language Summary



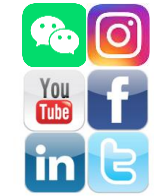
Infographic

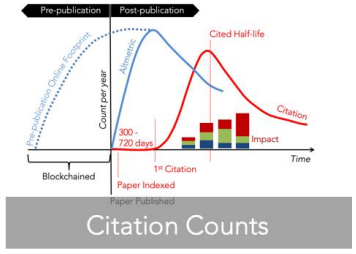


Graphical Abstract



Video Abstract





Scientific Paper → Story → Highlight → Engagement → Impact

Science Pitch

Impact Report

Pre-publication

- Fear loss of IP
- Only submit novel findings to publishers
- Only receive citation if their publications are indexed
- Citations come many years later

Post-publication

- Challenge to quantify impact
- Research integrity

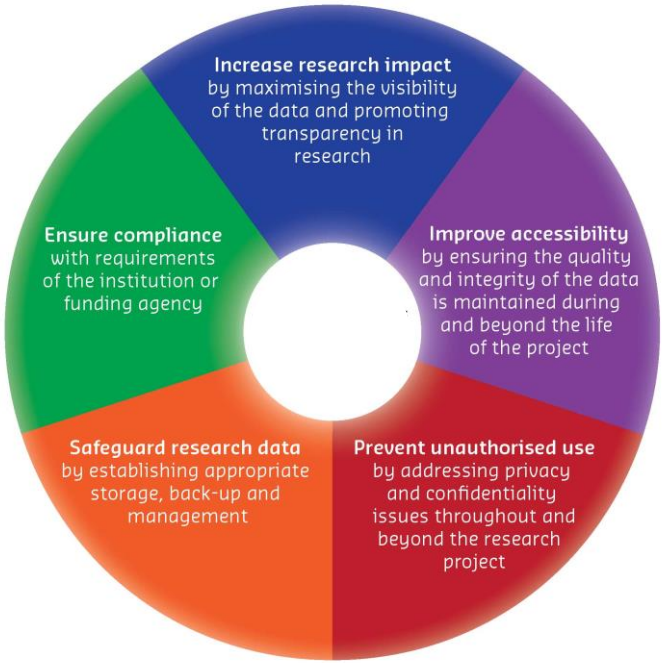
Publication

Only a fraction of research outputs:

- Are indexed and can be discovered
- Can receive attribution that formally count toward researcher's reputation

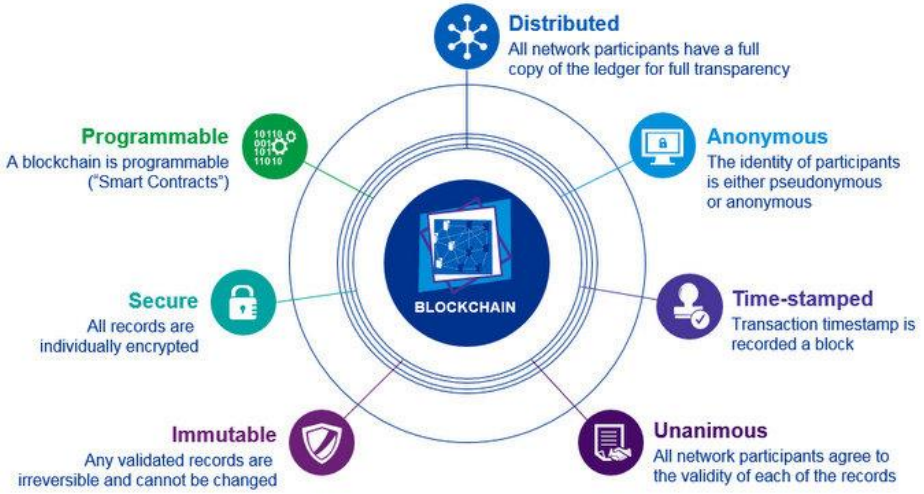
The future role of

librarian



in supporting research

impact



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Try for free!

Quickly establish proof of existence

Safely share your research to accelerate discovery

Get the credit you deserve with break-proof attribution

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Learn more ⟶

ARTiFACTS helps to protect your original ideas and share them with other researchers by securely registering a 'digital fingerprint' (proof-of-existence or PoE) of your work to our blockchain. Of course,

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- How much does ARTiFACTS cost?
- What is Bloxberg?
- Why do I need to upload my Files to create a blockchain Proof of Existence?
- How will ARTiFACTS be useful to my research?
- What is Proof of Existence (PoE)?
- Why would I add metadata to be hashed with my file?
- What happens when I send a citation to the blockchain?
- How can I contact the ARTiFACTS team if I have a question that the FAQs don't answer?
- How can I get started using ARTiFACTS?
- How do I create a lab group/organizational group?

Get in Touch

For product suggestions or to report a bug:
ideas@artifacts.ai

For general questions or comments:
info@artifacts.ai

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woeifuhwong@gmail.com

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