



A Blockchain-based Ecosystem for Museums


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From a technical point of view, a blockchain is a distributed ledger technology that allows for the sequential storage of data in a tamper-proof manner



*However, they are far more than just a technical system: they allow for its stakeholders to agree on the vision and the way realise it, **i.e. how to govern it***



*They facilitate the **creation and implementation of incentives** for participation and engagement, and also for fundraising*



*They can bring **transparency and accountability** to the records, and enable a new layer of **data intelligence** to understand and analyse the agent behaviour*



*Blockchains are not just a technology.
Once deployed, they are complex socio-
technical systems that (properly
designed) facilitate coordination of its
users*



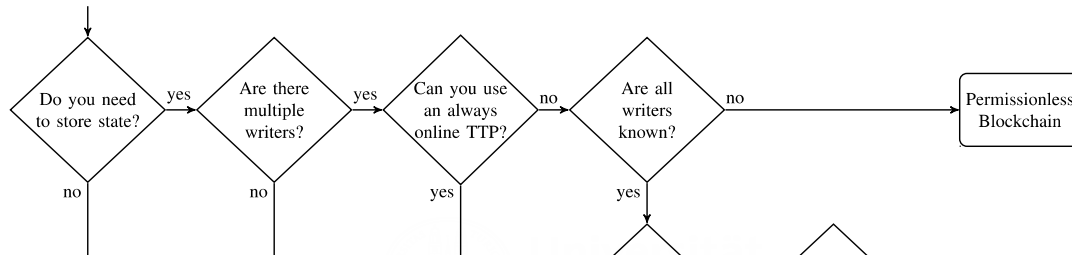
*They are also cost-efficient reducing
marginal costs for each new entrant*



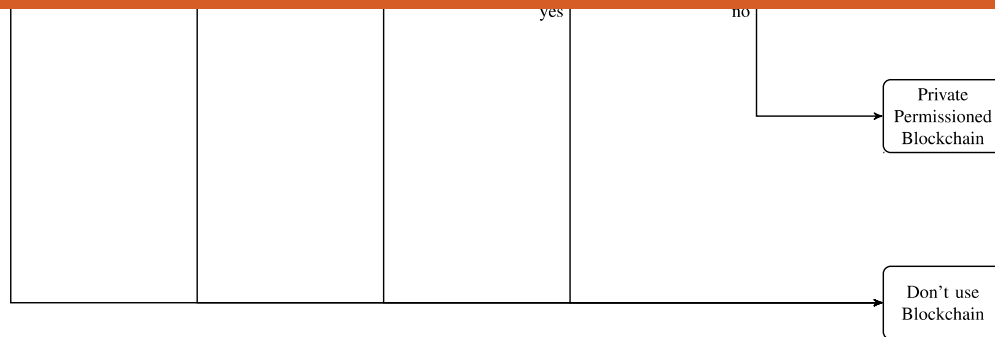
*When designed right, they build up a
resilient federated system*



When do people need a blockchain?



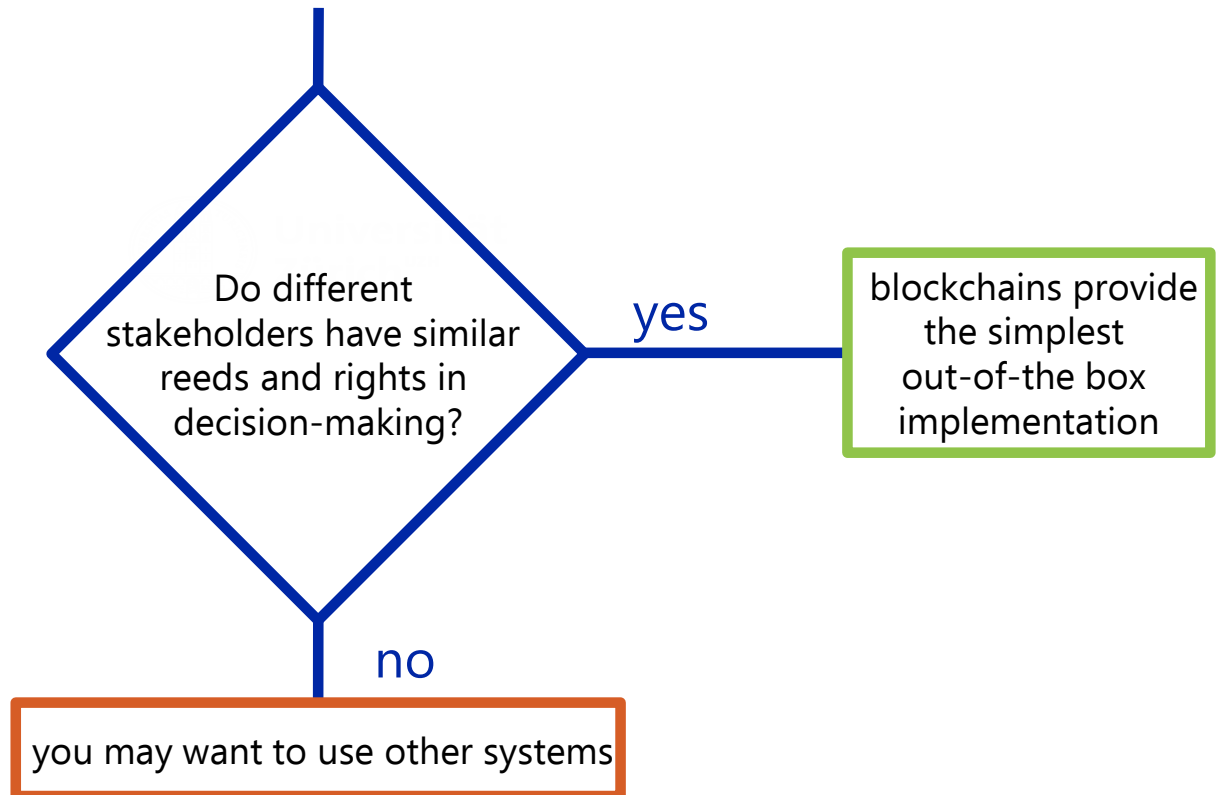
It focuses purely on the technical viewpoint



"Do you need a blockchain?" Wüst, Gervais (2017)

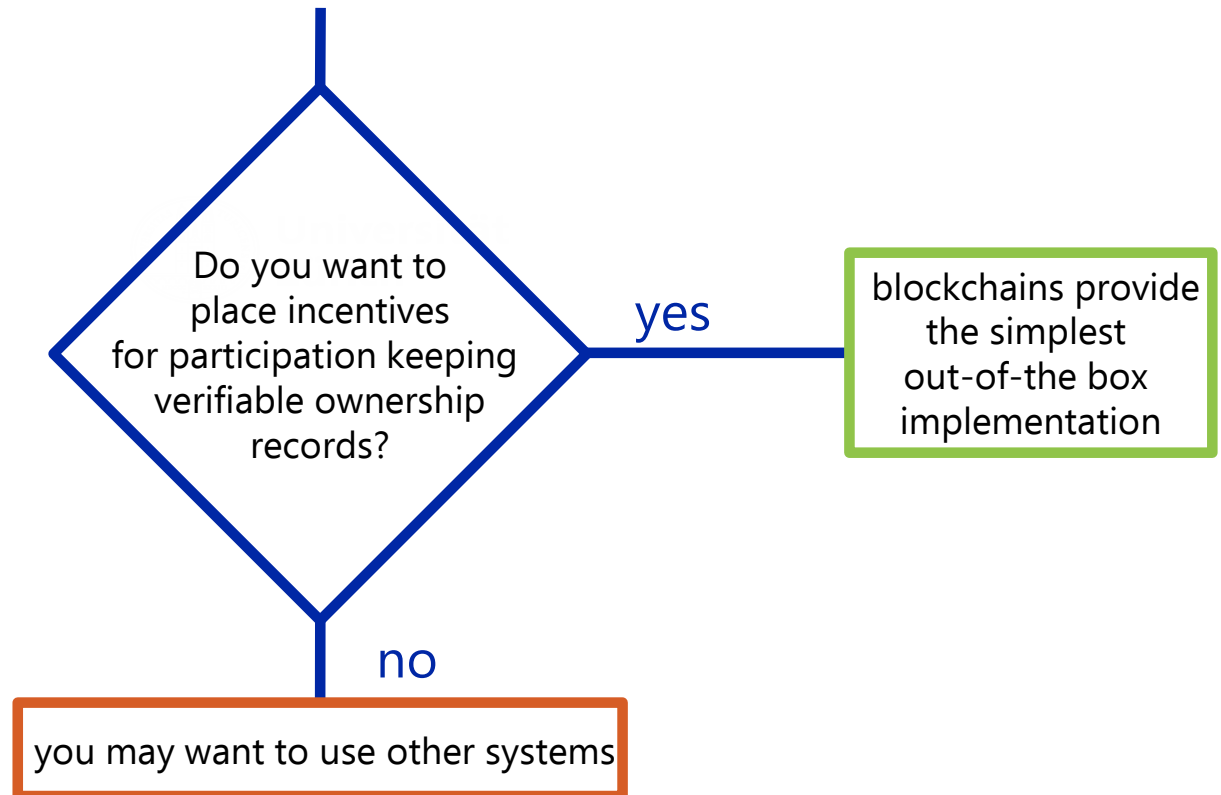


When do museums need blockchain? (governance)



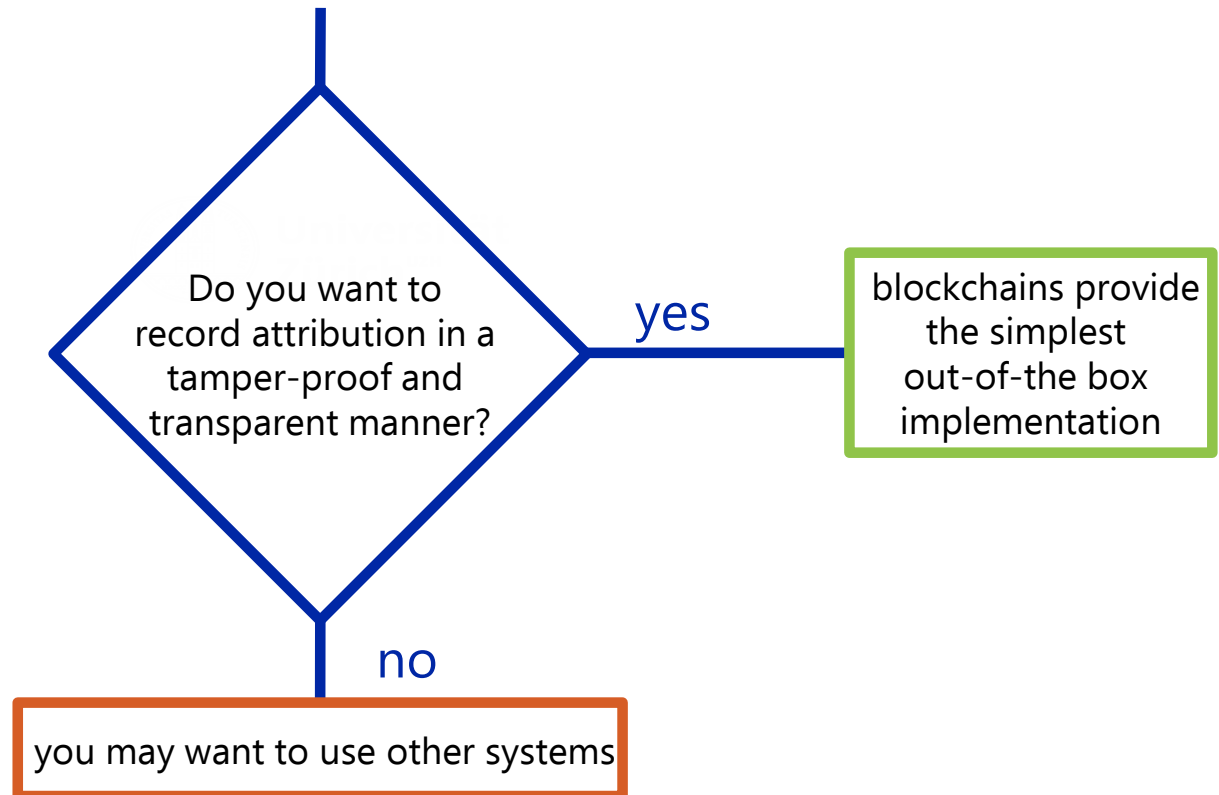


When do museums need blockchain? (economics)



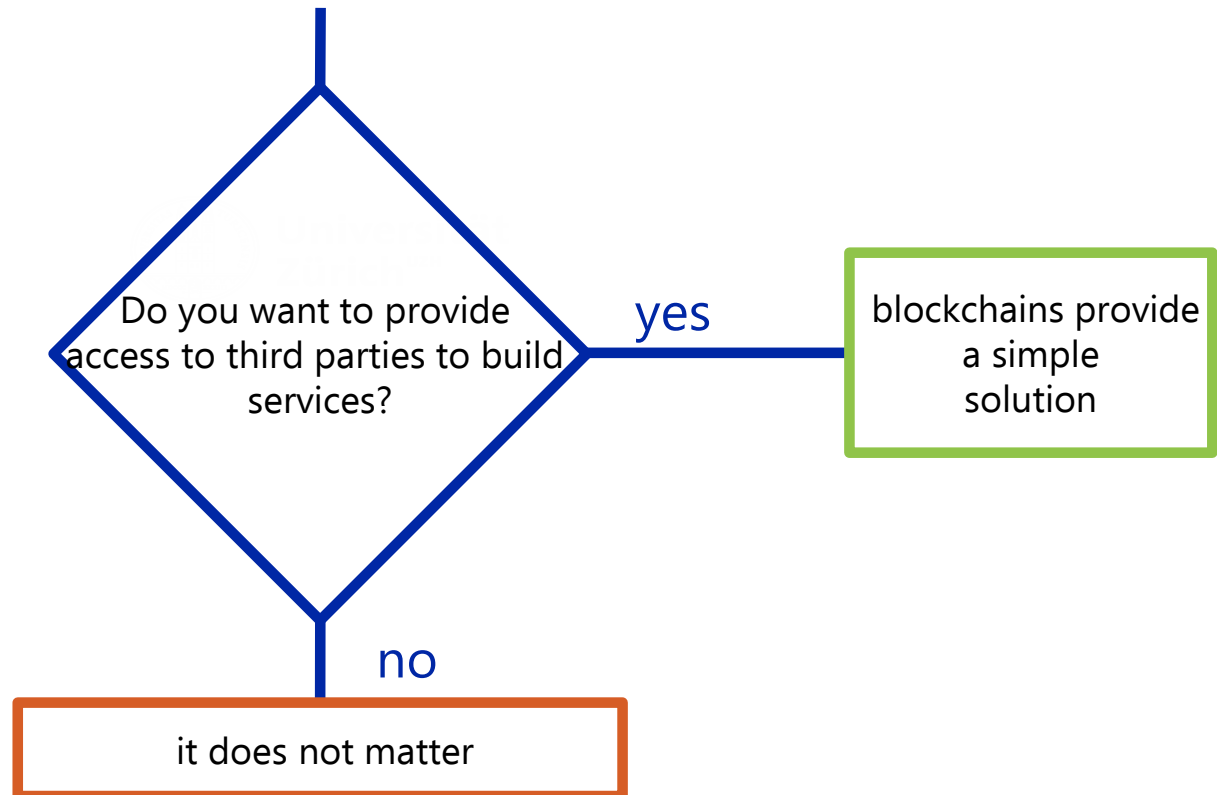


When do museums need blockchain? (data transparency)





When do museums need blockchain? (business)





*I have not spoken about
cryptocurrencies or speculation. A
blockchain can be a system that you
control, with your own rules and spirit*



*It is a multi-dimensional decision space,
and even if some decisions may be
indifferent, it does not preclude the
optimality of the decision overall*



The Museum of Future

When SNM meets digitalization
2023 UZH DDiB summer school

Céline Müller, Melisa Hida, Yunxiu Zhou
July 2023



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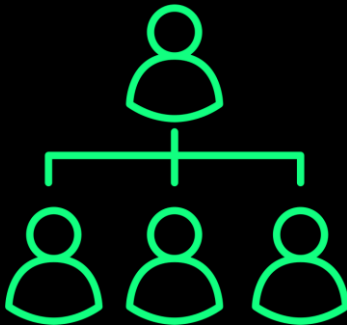


Transforming experiences

* paper custome, 2, 3



How SNM make decisions



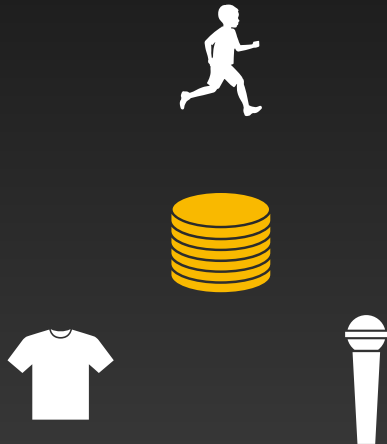
Implementing governance and engaging the community



Token Governance

2 types

Utility tokens (**MUS**)



Governance tokens (**SNM**)



A multi-token system






Why ?

There is the need.

Demand



- Enhanced Provenance and Authentication (tracing) 
- Efficient and Trustworthy Database Management (streamline) 
- Comprehensive Documentation and Exploration (ML digital library) 

A streamlined provenance recording system



Outlook Multi-stages

!! Existing digital and modern efforts
!!! Onsite and onchain!
!!! Continued education
!!! Remain active, updated and sustainable & resilient

Stage 1

Testnet on **members**

Initial reward incentives (e.g. Scarcity, free airdrops)

Install **onsite metaverse** space

Initial **industry cooperation** (XR companies)

Stage 3

Extension to **German-speaking areas**

Wider **industry and academic collaboration** (e.g. Humanitarian initiatives)



meaning + art + story !

Continuous education + data collection & analysis for feedback and improvement

Stage 2

Extension to **all on-site visitors**

Incentivized by **airdrops & utility token rewards**

Stage 4: STABILITY

Further market **expansion**

Establish **standard** and provide **infrastructure** in collaboration with other museums **worldwide**

With a clear path to adoption



Tokens do not need to have monetary value, but can reward interest or knowledge



L.L.L.L.L.



L.L.

*Properly designed, they may allow e.g. for you to better
your audience*

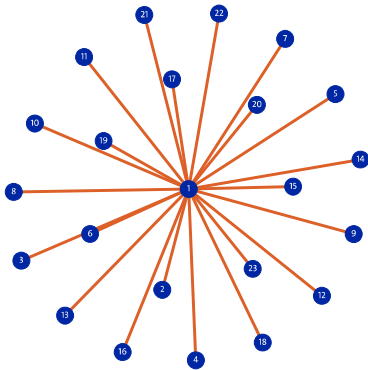


This is all thoughtful, but it misses the fact that the pain and opportunities for Landesmuseum is repeated thousands of time around the globe



The marginal costs of implementing decreases with the size of the system and the technologies it builds upon: common traceability and collection information, services built on top

Models for value of a network

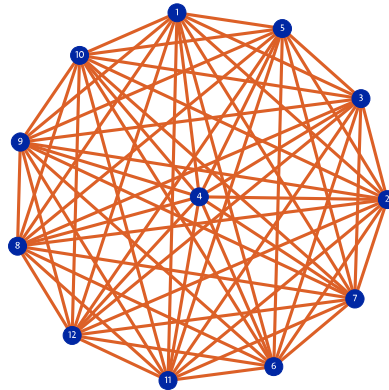


Sarnoff's Law

$$V \propto N$$

Proportional to the
number of viewers

NETFLIX

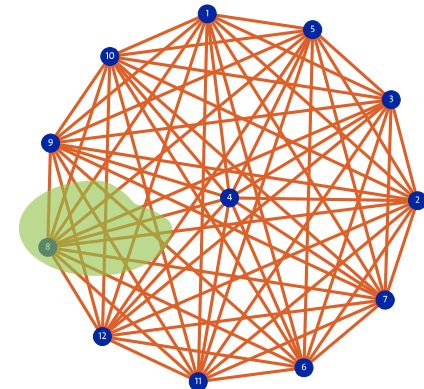


Metcalf's Law

$$V \propto N^2$$

Proportional to the
number of connections

 **swisscom**




Reed's Law

$$V \propto 2^N$$

Proportional to the
number of groups

 **WhatsApp**



The network effect creates additional value to all stakeholders and creates a more inclusive expanded experience



*We have inherent trust in few entities:
Issuers of NFT, marketplaces and
curators*



Where do we need to move from here?



*We need systems that completely link
the artistic assets to their origin their
provenance*

1



We could leverage on the insights that data transparency gives to advance knowledge, boost interest and build additional and fair sources of revenue

2



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<https://www.blockchain-group.io>

<https://www.blockchain.uzh.ch>



in/claudiotessone

in/uzh-blockchain-center

@uzh_blockchain



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