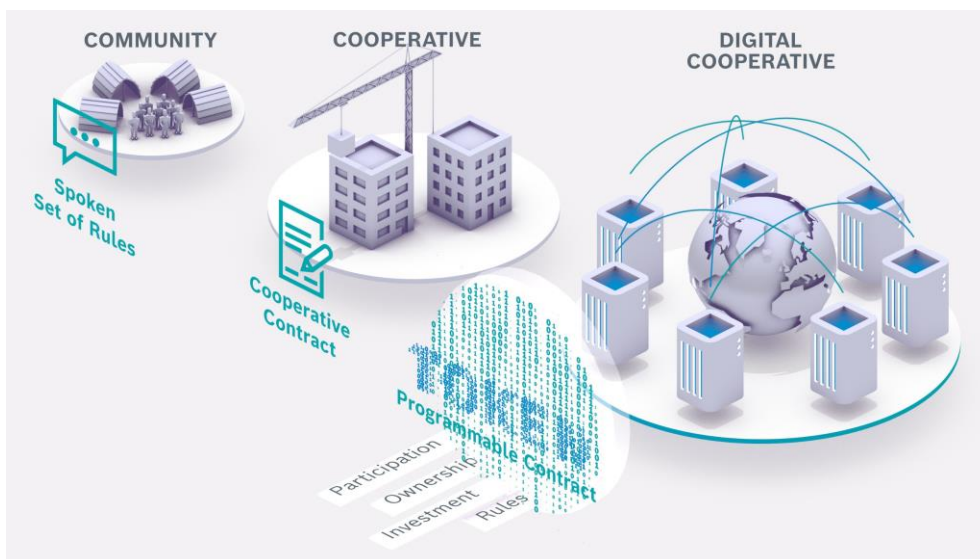


Bosch Research

Economy of Things – contributions to the community

The evolution of the cooperative model in the digital age

One mission of GAIA-X is to create a European federated and decentralized data infrastructure. The GAIA-X goal of data sovereignty is critical to the success of a European digital economy. Digital ecosystems based on this understanding are communized, decentralized, and without a single source of trust, with powerful incentive mechanisms, known as crypto-economic systems (Voshmgir and Zargham 2019), as their foundations. Unlike shareholder- or equity-based systems, they promise to align stakeholder needs much better. This is the proven idea of a cooperative evolved for the digital age (Walden 2019). “The long-term relevance of any ecosystem depends on strong incentives for contributors,” says Christian Heise, member of the transition management and creation team of the GAIA-X foundation. “We have to encourage participants to operate the technical infrastructure, sponsor development activities and invest in efficiency. On the other hand, we need to have a strong and quick response to malicious behavior, e.g. attacks on the common infrastructure, collusion and price manipulation on marketplaces,” adds Heise, who works as Deputy Project Director of the “Economy of Things” (EoT) strategic advance engineering project at Bosch Research.



The complex goals of GAIA-X would best be achieved based on decentralized approaches and well-balanced tokenomics concepts.

Tokenomics uses the benefits of cooperatives to meet the needs of digital business

Tokens are the digital equivalent of a traditional written contract. Similar to such a contract, they could represent the ownership of a digital platform. The rules and policies coordinate the parties involved in a particular network (Mersch 2020), (Zhang et al. 2020). A well-designed token also incentivizes network participants to take a risk by adopting a new platform that has yet to realize its network effects, and rewards them with ownership that will have future value thanks to their contribution. “In principle, a well-drafted token concept can reflect the actual European principles

GAIA-X aims to achieve – subsidiarity, supranationality and solidarity,” explains Danny de Waard, governance expert in the EoT team. “Adherence to these principles and the core values of the European Community is by no means an added bonus. In fact, it is the key to leading digital socio-economies to high efficiency, which in turn makes it possible to deal with the threat posed by hyperscalers,” says Alexander Poddey, leading researcher for digital socio-economy, cryptology, and artificial intelligence in the EoT project. Very similar ideas are currently being researched in the EoT project (Poddey et al. 2019). The EoT team transparently contributes to open source code and has released a primer with its design know-how on tokenomics (Lamberty et al. 2020). If more development teams and companies follow this approach, it could speed up the evolution of GAIA-X into an incentive-based decentralized ecosystem.

Digital cooperatives need the flexibility to reflect ownership and participation

Digital marketplaces – and digital business in general – are far more dynamic than traditional cooperatives. The number of participants and length of participation in a digital ecosystem vary heavily. Even more critical is the internationality of digital business interaction, which cannot be covered by the limited applicability of regional legislation. Tokenomics provides a way of combining the benefits of cooperatives with the requirements of digital business and regulation. “Tokens are far more than the financial speculation instruments they are publicly seen as. Tokens can represent a multitude of aspects, such as ownership or rights of participation. They are an integral part of incentive mechanisms that lead to both fairness and high efficiency,” says Ricky Lamberty, cryptoeconomist within the EoT team. “The complex goals of GAIA-X can therefore best be achieved based on decentralized approaches and well-balanced tokenomics concepts.”

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