# Ethereum Alliance: A coalition of the willing



**Kirill Timofeev, senior developer in DataArt's dedicated blockchain team outlines the pitfalls and potential for financial services participants in the Enterprise Ethereum Alliance.**

Seeing major players actively contributing to the blockchain landscape, finding opportunities to fix gaps in financial services and bring benefits to the whole industry is a definite step in the right direction. It is, however, going to be challenging to reach a consensus in a big alliance between 30 parties on the design that works for everyone. Key challenges exist in agreeing on areas such as:

• Governance structure
• Day-to-day operations
• Deployment and updates
• Network connectivity
• Private networks
• Security standards

However, if Enterprise Ethereum follows a cloud design, which is more often than not cheaper, complication with security requirements, and ensure better operations and deployment workflows, it will be easier to identify the minimum

viable stack that works best for everyone.

Right now, Enterprise Ethereum governance structure is not quite clear. For example:

• Who is going to responsible for making tech design decisions?
• What open source form and structure is it going to have?
• What happens if Enterprise Ethereum changes any fundamental architectural principles in public Ethereum?
• Will they be back-ported or is it going to be a complete fork?

It must be considered that that ConsenSys is likely to play a significant role in this Enterprise Ethereum. This company has built a number of blockchain projects already and claimed milestones in various blockchain-industries. If there is a firm that can be an expert in the Ethereum blockchain world, it is ConsenSys.

It is becoming a consensus in the financial services industry that distributed ledger technology (DLT) has the potential to cause significant changes in the industry. It will bring efficiencies to the market and in the long term, effectively substitute many existing processes. With more and more financial institutions evaluating and now prototyping uses of DLT (most utilising blockchain as their distributed ledger) we will see value beginning to be brought to the entire industry. Projects such as utilising blockchain range from payments and securities financing to trading and insurance, are being explored by major players, in collaboration with each other.

However, while we will know soon which will work, large-scale adoption is still 3 - 5 years away. If the history of technology can teach us anything, it is that standards are never easy to establish and are always challenging.

Ethereum is a public blockchain and different from its private twin, it is not easy to adapt algorithms and approaches from private to public blockchains. Public blockchains by their very nature are open networks, accessible to everyone, without restriction. Within the blockchain all data is available to any participant (in encrypted form). In contrast to this, private blockchains only allow pre-verified and approved entities or trusted parties to join them.

Across both private and public blockchains there are barriers to wider adoption. DLT is significantly slower than traditional solutions. The cryptographic algorithms, on which blockchains rely, are calculations extensive. For example,

VISA payment system can average 2,000 transactions per second, with a peak capacity of 56,000 transactions. In a public blockchain, transactions must be verified by a certain number of nodes, taking time and increasing latency, resulting in slower than traditional ledgers, though the data is more verifiable. In a private blockchain, the permissioned nature of the network does allow for simplified (and quicker) workflows, but operating in private, any new blockchains, like the one under development by JP Morgan Chase et al, will not and cannot be the same Ethereum network known by the industry.

Equally adoption is held back in part by the requirement of a blockchain that all parties involved have access to all data in the chain. The original blockchain enabled every participant to view the entire ledger, with all transactions and metadata available to all. In slight contrast to this, real-world applications of DLT are requiring a more granular permission schemes, with greater emphasis on privacy. The issue arises that even if data is encrypted, it may be vulnerable to being accessed by undesirable participants. To solve this would require significantly enhanced security algorithms and approaches. The development of said solution is holding back adoption.

The potential of blockchain cannot be considered in isolation. Right alongside the technology is smart contracts. These are self-executing programmes that live on a blockchain and are executed when criteria has been met. Though conceptually there are great applications in development utilising these two technologies, they are in the early stages and have never been used for larger applications. Ultimately, like much of blockchain, whether this will work remains to be seen. The technology is there, it just needs to be standardised and proven to work in the real world.

The blockchain journey bears striking resemblance to Javascript. This took time, patience and lots of experiments but became one of the most popular programming languages. There are no shortcuts.

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