

## Adding a new geo-link to Blockchains

Blockchains, the “game changer”, the “revolution”, which everyone seems to be talking about, but only very few truly understand. I myself belong to this group but have a large interest in the topic and have visited a few talks and presentations on the topic. In a nutshell my knowledge of blockchains is that they are immutable distributed “databases” which consist of blocks containing a number of transactions for which a unique hash must be calculated taking previous and new transactions into account and thus allowing the inspection of all transactions ever made.

Blockchains should not be seen as a geospatial storage panacea, nor as a one trick pony. Rather blockchains are a new tool at our disposal to complement existing pipelines. This reminds me of similar discussions regarding databases where relational databases were thought to be replaced by graph databases. After the initial hype period, people eventually realised that complementing instead of replacing was the way to go, which I believe holds true for blockchains as well.

My special interest lies first and foremost in discussing for what GIScience applications and research Blockchains could indeed add value (if there are any). This implies the rather technical question of how complex geodata can and should be stored or manipulated within a smart contract and if this approach makes sense. Secondly I am interested in privacy and security discussions regarding critical number of users, 51% vulnerability and the new EU regulations.

If we are talking about domain specific interests, I would be especially interested in discussing Blockchains in the context of another set of buzzwords, namely “citizen science”, “crowdsourcing”, “volunteered geographic information” and “user generated content”. How applicable is a distributed ledger to keep track of such data? Is it even viable to have so many redundant data storages in a potentially fast growing dataset of user generated geographic information? Who will provide the computing power to hash transactions and why? Or would it make sense to piggyback on existing chains? If yes, how can we handle the current huge volatility? How can users (which are of utmost importance in crowdsourcing efforts) be motivated to partake in crowdsourcing efforts built on blockchain technology and not traditional database systems?

I am on the one hand especially interested in talking about technical uses of a blockchain. On the other I would also welcome critical discussions of how to use this technology in a long term manner and how to avoid potential pitfalls of prematurely jumping onto the blockchain hype-train.