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USES OF THE BLOCKCHAIN TECHNOLOGY IN SPACE 4.0

Abstract

Having the Blockchain technology invading various industries and services in 2018, this paper gives a possibility on how to use this technology, so space industry may benefit from it.

Blockchain technology can be used in various ways. Capital transfer, like Bitcoin and other cryptocurrencies, is only one possible usage. One important and very interesting properties of this technology is decentralisation.

In recent decades, projects got larger and more complex. Fewer people were working on a single system and more simple labour was done than complex engineering tasks. Today, more engineers working on one large system than ever. Having this huge projects, complexity rises exponentially. If it weren't for advanced computer programs, it wouldn't be possible to fill this demand. Nevertheless, this programmes mostly solve single-task and rarely multi-task problems. It never solves such huge number of tasks needed in large industrial projects like creating trains or satellites. To plan and maintain this projects can take years of experts working. Defining interfaces, assigning submodules and reacting to changes can delay projects significantly. The way we handle these projects is very similar to the way we did it a century ago and only small changes in its blueprint have been made. Namely, it is heavily centralized.

This is not necessarily a bad thing but for scaling up projects sizes more and more, centralised systems getting more and more complex, inefficient and error-prone.

The blockchain technology offers a possible solution for this problem. Decentralising project design and definition might be the key to scale up systems without exponentially increasing complexity. This paper proposes a sample design and certain follow-up possibilities for blockchain based project structures are given.