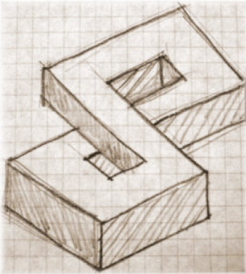


"What is the question that I should be asking?"

# The First Mars Colony Will Be Funded Through Bitcoin

## *Distributed Consensus As Bitcoin's Fundamental Innovation*

New York, February 2014



### **Blockchain**

A lot of analyses concentrate on the issues of Bitcoin and crypto currencies in general as a payment platform and tool, or as an investment class. Both of these as well as other uses of Bitcoin can be interesting. However everything in the recent evolution of crypto currencies started with a novel combination of a series of mathematical discoveries and their implementation in working software: the creation of the Blockchain. By combining public cryptography with distributed computing resources, the Blockchain smartly addresses previously impractical problems elegantly.

The Blockchain is a distributed, cryptographically signed chronological table of public transactions, whose entries are computed by a worldwide network of participating computers. The way the calculations comprising new blocks on the Blockchain are organized generate a consensus among independent participants, who do not need to communicate with each other, except for the exchange of blocks in the Blockchain, and don't even need know each other, or to trust each other at all.

### **Distributed Trust**

The consequence of the Blockchain approach and implementation is the possibility for the first time in human history, to organize groups and establish relationships between members of a group through distributed algorithmic trust, rather than the imposition from above of trust between them.

In the traditional trust model that we all are familiar with, trust is implied, or more frequently imposed, through the relationship of trust between the new parties and a third party, a central authority that each of them is bound to trust. This approach has worked well in the past for hierarchical organizations, that delegated authority and responsibility to a central figure. New organizations however require a different model, and in a symbiotic solution, the Blockchain both

solves the need for a new trust model, and enables the network structure of the new organizations to be more effective.

## **Emerging Authority**

The distributed authority of the Blockchain doesn't live in a single physical space, or in a central location online, but actually is an emerging property of the distributed network itself. And as such, it is much more resilient and capable of recovering from disruptions than not any traditional structure would be.

Past attempts to create digital currencies failed because they had centralized components, and they were quashed with accusations of money laundering, and aiding illegal commerce or international terrorism. Just as Bittorrent evolved in a protocol that can't be stopped for the reliable distribution of files, Bitcoin is the current best fit in the evolution of the protocol for distributing and verifying transactions over the Internet. And it can't be stopped.

The requirements for the Blockchain to work are a worldwide electric grid, universal internet connectivity, and availability of computation in the form of personal computers, smartphones, or data centers. These are all today the basis of modern civilization, and their satisfaction can be taken for granted. A separate important issue would be of course how to bootstrap the complex components needed to make this available, were civilization to collapse...

## **Efficient Resource Allocation**

The opportunities of Blockchain based or Blockchain-like networks like Bitcoin are barely being explored today. One of the most interesting and intriguing opportunities is the efficient allocation of resources to specific micro or macro tasks, based on new dynamic reputation management systems. The effectiveness of these new systems that can work out by themselves the trustworthiness of their participants is much greater than the hierarchical ones preceding them.

One of the roles of government in the past was that of implementing policies to drive resources towards activities that society as a whole decided were fruitful, useful, and important. Representative democracy, delegating decisions, influenced by lobbying, has been the way that decisions were made with very little possibility for a direct influence from the public.

## **Mission to Mars**

Space exploration has been the realm of big government initiatives up to very recently, which would organize the centralized bidding, if any, assigning work to large established enterprises, who would not be incentivized to innovate or to increase the impact of the financial resources available. After the retirement of the Space Shuttle fleet, and NASA's decision to delegate low Earth orbit to private contractors, including the manned missions needed to carry astronauts to the International Space Station, a new generation of entrepreneurs are taking the initiative to define what the parameters defining spaceflight in terms of cost, feasibility and goals should be.

Imagine the possibility of reaching out to a worldwide audience, with an important message. To be able to tell a story, substantiated through previous achievements, and broken down in steps that are each workable, if challenging. Imagine not thousands, or millions, but potentially billions of supporters being able to fund, engage with, be legally, and practically part of an exciting endeavor that can be of an existential importance to humanity.

Who is going to fund the next phases of space exploration? The probability of governments funding it is very low, saddled as they are with amounts of debt that are less and less sustainable. Traditional venture funding doesn't have the long term vision and fundamental chutzpah to take on an ambitious mission as this.

The only difference between the dinosaurs and humans is that we have telescopes. These serve little purpose however, if we do not use them. Unless we become a multi planetary species, our extinction is guaranteed in the long term.

Is the next great leap bringing humanity to a permanent spreading into space going to be based on the new systems made possible by the Blockchain? The probability of it happening is rather high, if we can articulate, communicate the challenge in the best way possible, maybe as a contest. The frictionless nature of Bitcoin funds transfers make it possible to raise very low amounts of donations, or investments, from a very large number of people. There can be very little that is more ambitious, and important than this mission: let's go to Mars!