**A Data Driven Society Untangled**


**Introduction**
Modern societies are increasingly dependent on data technologies. It has integrated with so many facets of daily life, that one could already say these societies are data driven. From health care to agriculture to recreational purposes: data is massively produced and consumed. The usage of data on this scale has proven its need for new levels of security. At the same time it has become a lucrative industry for (new) companies that, given the exponentially growing market, have transformed into global entities with a lot of power.

**Data Society 1.0: static**
Today's data societies are characterized by the fact that the identities of the participants are static and are limited in their contribution to the networks. Another characteristic is that these data landscapes are mostly separate from each one. Tons of data is produced and applied, one sided.[1] This makes current structure an unhealthy one. For example, if we take a look at the societies of ants we can conclude a couple of fundamental principles for an healthy self sustaining network.

First principle is that instead of living solitary, the ants live in a high level network of dynamic participants. The workers switch their roles from cleaners to foragers to nurses all along their aging or the colony's need. This makes sure the involvement of all the participants is constantly adjusted and results in a certain intertwining of knowledge.
The second principle will be the that each ant functions as a brain cell being part of a communal brain. This structure offers the capacity to adapt as a collective successfully to major changes or threats.


**Data Society 2.0: dynamic**
If we want to make our future data society sustainable, we should keep in mind that we as humans are social creatures and thrive best within a setting where there is a purpose for our effort. This combined with the knowledge of how successful ant colonies operate should lead us into thinking about an dynamic data ecosystem. An ecosystem where the participants have multiple purposes and benefits regarding the sustainability of the system. One could contribute by delivering data as well by verifying data instead of being solely the consumer or producer.

**IOTA / Tangle**
The future of data societies will be the Tangle. This is a transactions technology developed by IOTA[2] that makes it possible to do micro transactions almost instantly. It makes it possible to perform instant Machine2Machine transactions. A electric vehicle can now pay the charging station by itself.[3] Or pay for the parking spot. But Tangle isn't limited to fee-less financial transactions. It can be applied for data transactions as well and does this in unprecedented way. Companies like Bosch, Cisco and Volkswagen Auto Group are already working on implementation of the Tangle technology.[4]

Another fundamental difference with the current structure of data societies is that, one has control over his or her data. At the moment companies like Facebook gain their market position by monetizing public and personal data. With the IOTA marketplace this becomes possible for everyone.[5]

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1   http://www.datascienceassn.org/content/how-top-10-industries-use-big-data-applications
2   https://iota.org/
3   https://www.elaad.nl/news/how-elaadnl-built-a-poc-charge-station-running-fully-on-iota-and-iota-only/
4   https://www.trusted-iot.org/
5   https://blog.iota.org/iota-data-marketplace-cb6be463ac7f

Now data can be made available to who ever wants it. If someone has a climate station on top of his roof, this person can now sell this data to i.e. a research company that does climatological research in a certain area.

The strength of this Tangle network is that every participant has to do something for the network in order to get its own order through. This ensures maximum verification, encryption and transaction speeds that are scalable to it's circumstances.

With the Internet Of Things growing daily at rapid pace, it will only be a matter of time before the urgency of a self sustaining ecosystem will be clear as day. In my opinion IOTA offers the best alternative with it's Tangle technology.

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**Resources**
**1. Data Science Association**
http://www.datascienceassn.org/content/how-top-10-industries-use-big-data-applications

**2. IOTA website**
https://iota.org/

**3. Elaad NL**
https://www.elaad.nl/news/how-elaadnl-built-a-poc-charge-station-running-fully-on-iota-and-iota-only/

**4. Trusted IOT Alliance**
https://www.trusted-iot.org/