Code for Discipl

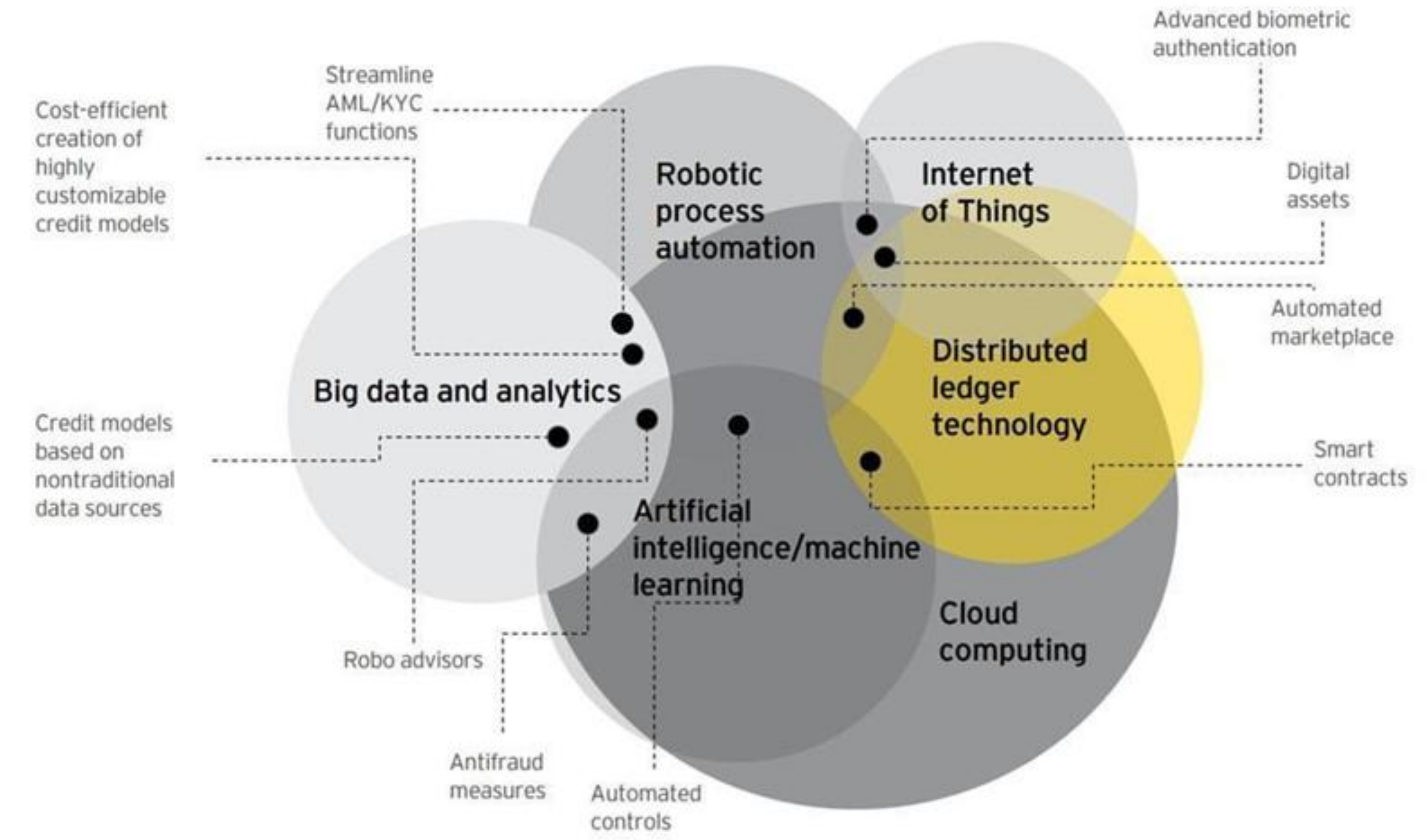
Progressing the discipl vision

Discipl – What is it?

- Third Horizon project by ICTU for NORA
- Vision of a future society with economy of abundance
- Inspired on Jeremy Rifkin, Miki Kashtan and others
- Embracing automation to fulfill all needs of self sovereign people not to be imposed upon

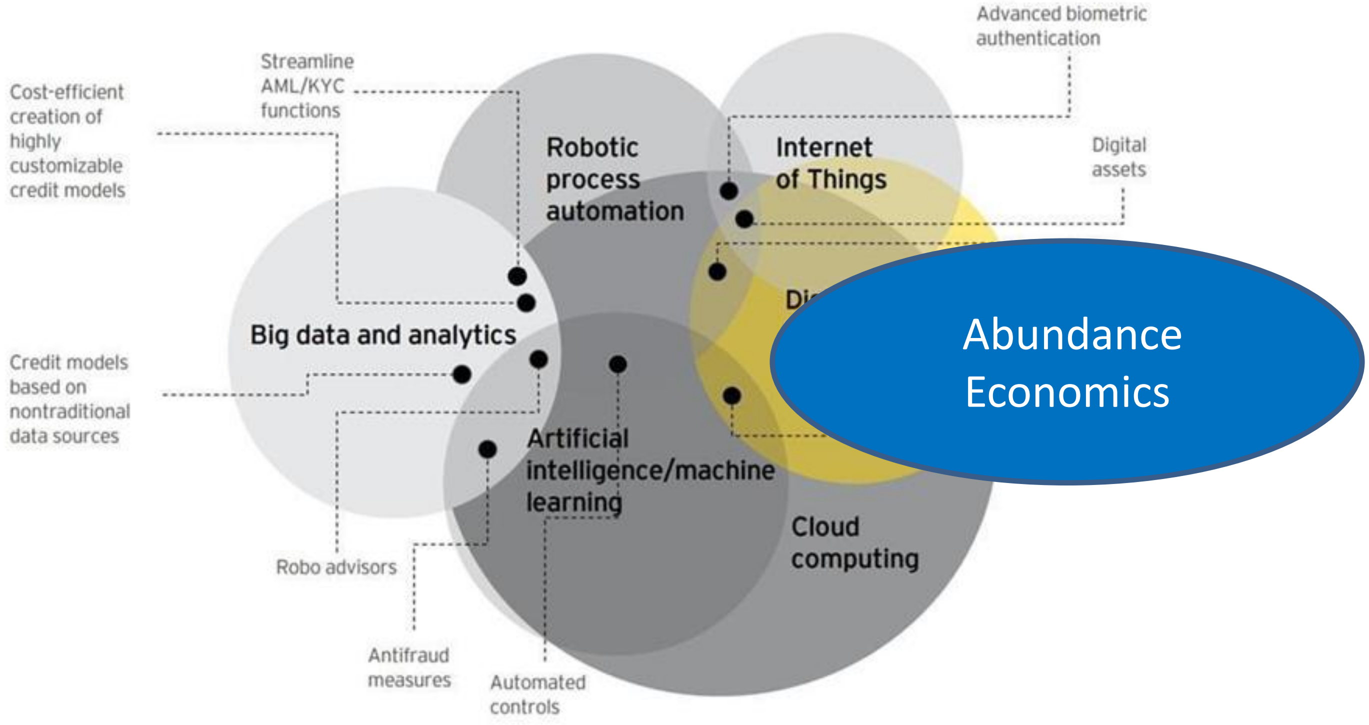
Holistic Architecture, not only technological…

Figure 2: Example use cases resulting from combining multiple emerging technologies


Advanced biometric authentication
Streamline AML/KYC functions
Cost-efficient creation of highly customizable credit models
Robotic process automation
Internet of Things
Digital assets
Automated marketplace
Distributed ledger technology
Big data and analytics
Credit models based on nontraditional data sources
Smart contracts
Artificial intelligence/machine learning
Cloud computing
Robo advisors
Antifraud measures
Automated controls

Holistic Architecture for Society

Figure 2: Example use cases resulting from combining multiple emerging technologies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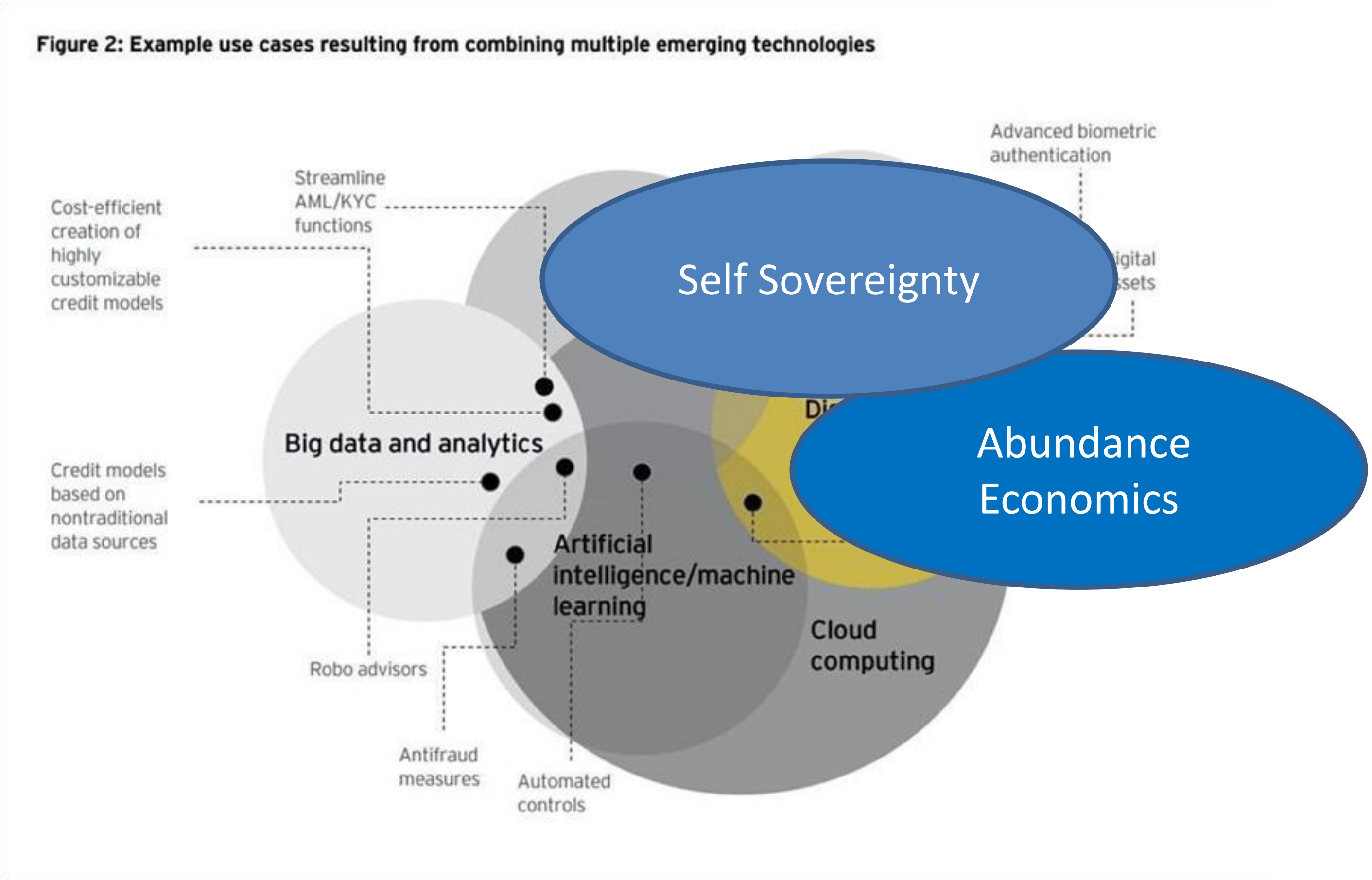
Society which works for all, evolving from an underpinning distributed collaborative information platform

Holistic Architecture for Society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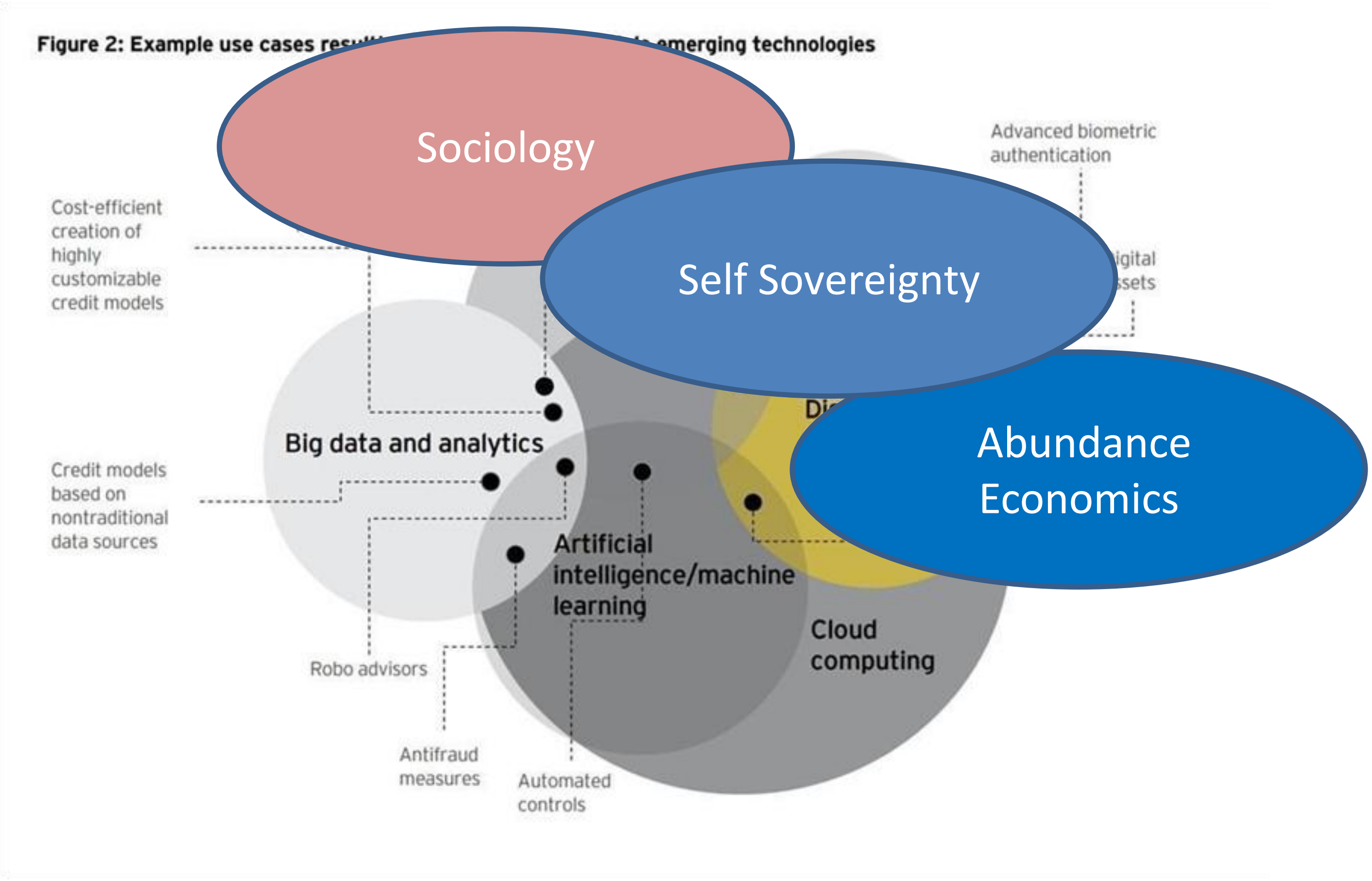
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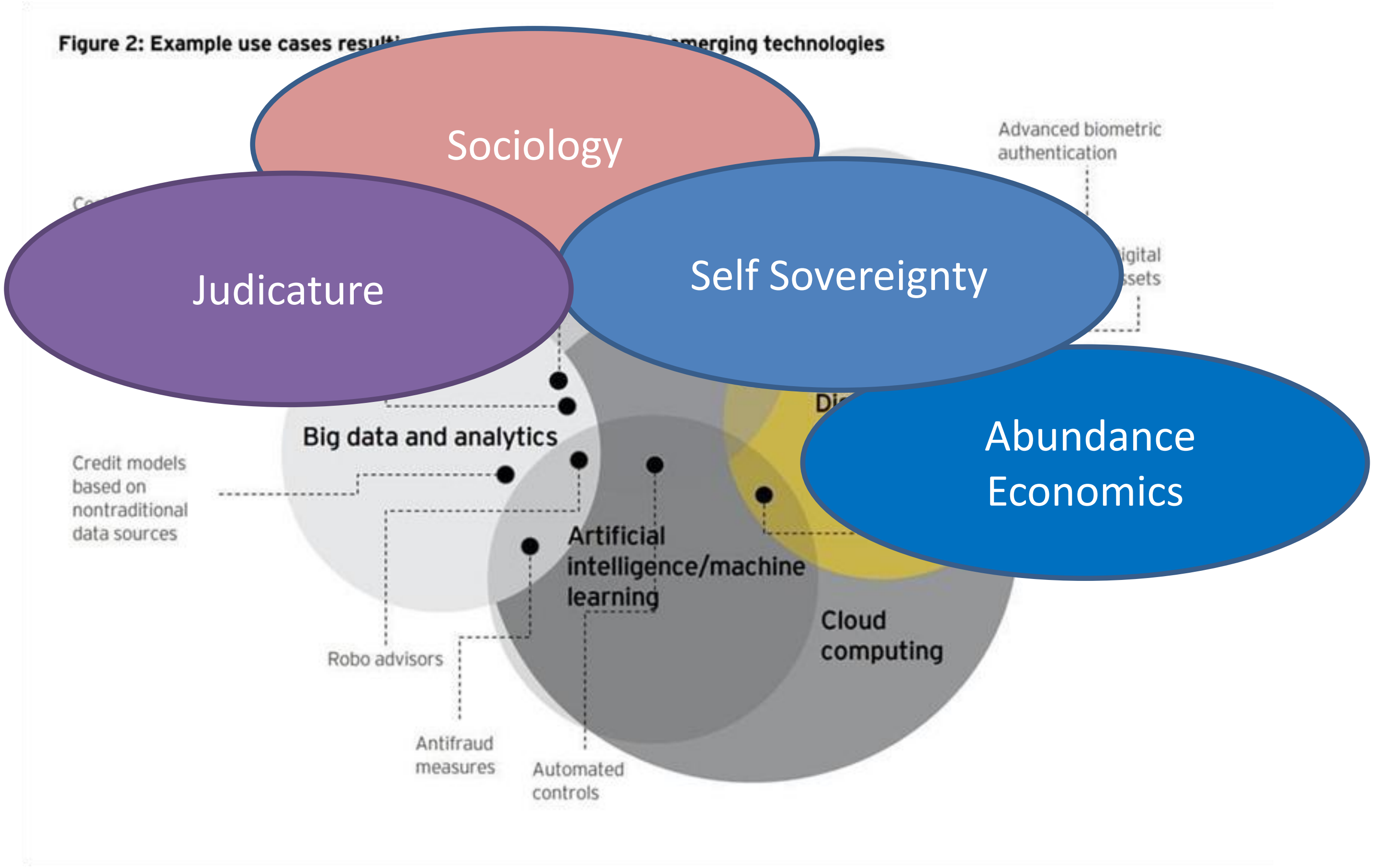
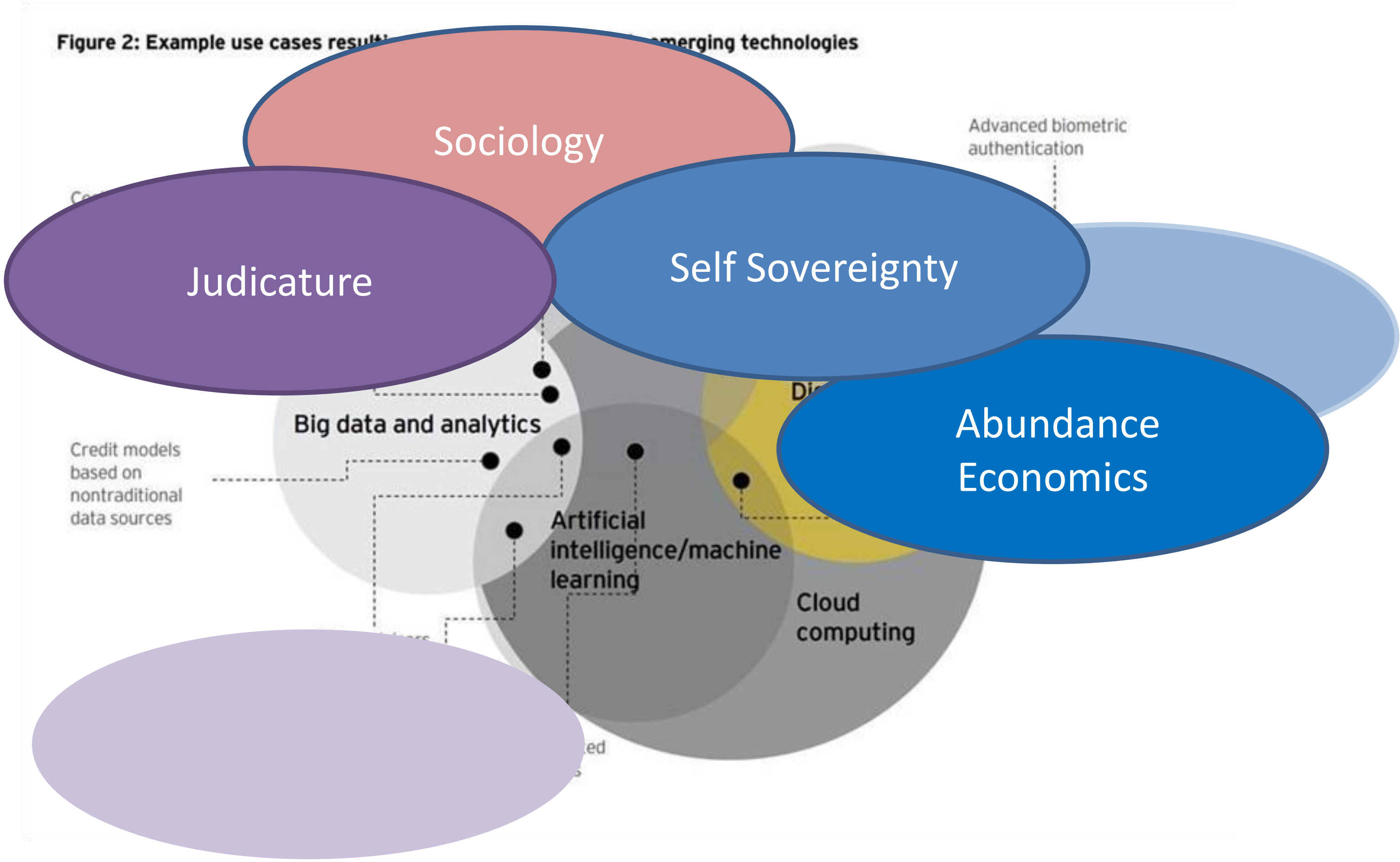


Society which works for all, evolving from an underpinning distributed collaborative information platform

Holistic Architecture for Society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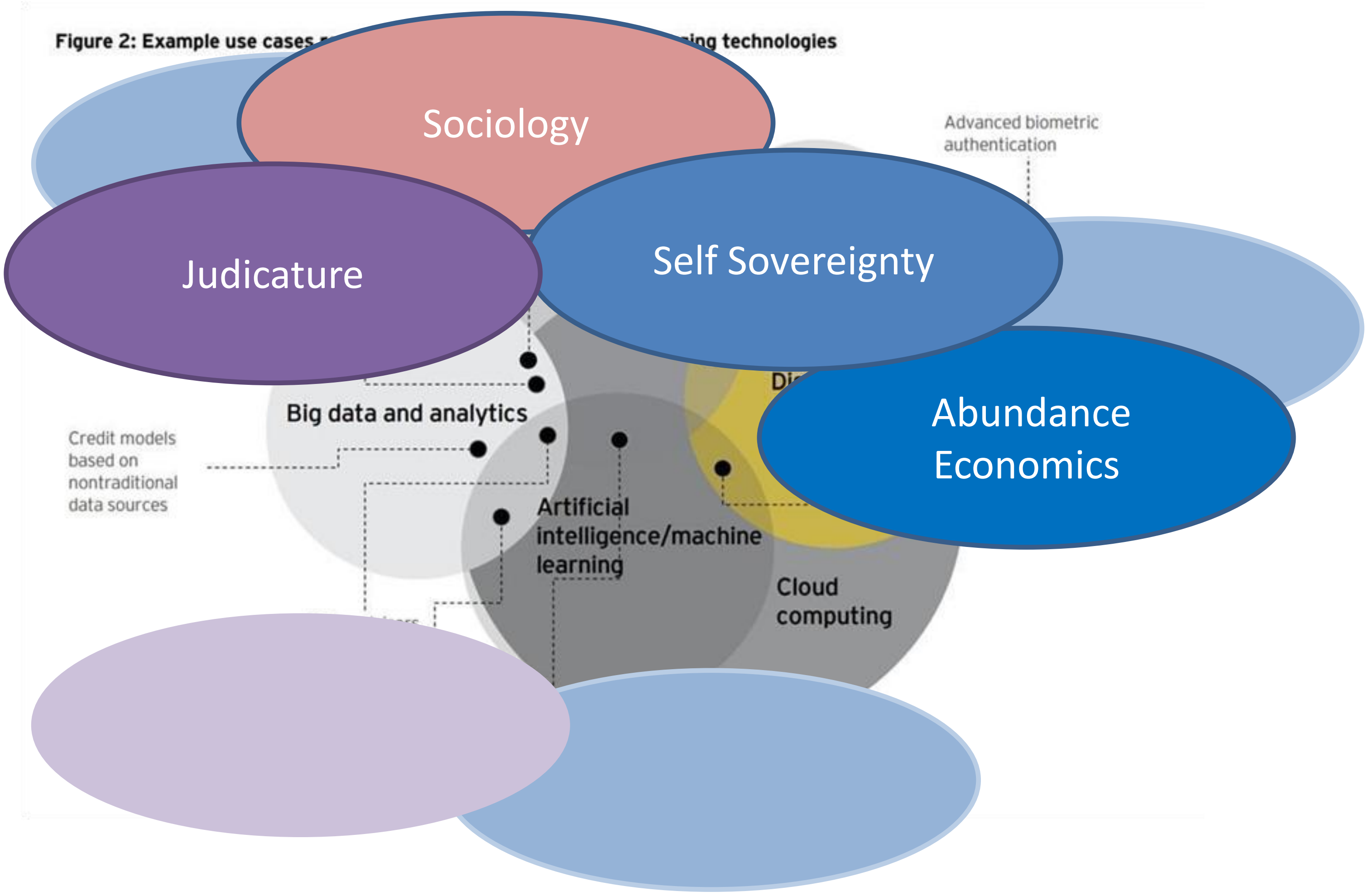
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Discipl – What is it?

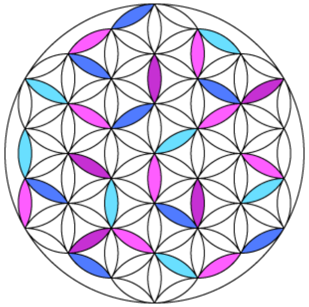
Until now:

- Trailer and Dutch Blockchain Hackathon track
- Website discipl.org and github
- Whitepapers

New:

- **Discipl Manifesto and Pattern**
- **Discipl Core**, the core component of Discipl
- Open Source Ecosystem (whitepaper 27-9-2017)

Discipl Core, what is it?



- A standard library (API) for adhering to the **Discipl Manifesto**:

1. Our solutions fulfill human needs in a durable, highly automated way
2. Our solutions are free, easy to produce, deploy and use
3. Our solutions are open source,
4. Our solutions apply the **Discipl Pattern**
5. (Our solutions abide to Law and Regulations)

Public Money
Public Code
publiccode.eu

Discipl Pattern

A conflict resolution pattern based on Convergent Facilitation Consensus Method.

Prosumers have needs
Prosumers can provide (which actually also is a need)
Prosumers are self sovereign and are not to be imposed upon

Mismatch between needs,

for instance what is needed and what can be provided

is dealt with through a :

- **Convergent Facilitation (CF) process**
- **escalation and jurisdictional feedback process**

Convergent Facilitation

ConvergentFacilitation
Efficient, Collaborative Group Decisions

Principles:

1) People are far closer on principles than on positions
2) People have greater ability to shift into willingness instead of compromise when they know their needs matter
3) People have a much wider range of the things they have a willingness for than the things they prefer
4) If you branch out of either/or into a solution that works for everyone it is much easier for people to come together

Source: https://www.youtube.com/watch?v=I12WUUD96Es Convergent Facilitation – Miki Kashtan

Convergent Facilitation

Proces:

1) Retrieve all principles stakeholders think that will attend their needs in an anonymous way and group them
2) Communicate list of principles/needs
3) Let (a small group of) people find solutions for attending as much as principles/needs possible
4) Propose solution which satisfies most principles and ask if anyone can’t live with that
5) If someone does not agree there will be an underlying (emotional) need that has not been attended in step 1. Find it and re-iterate steps.

Seems easy, but when there is conflict, expert knowledge and skills like Non Violent Communication is needed.

Escalation and Jurisdictional Feedback Process

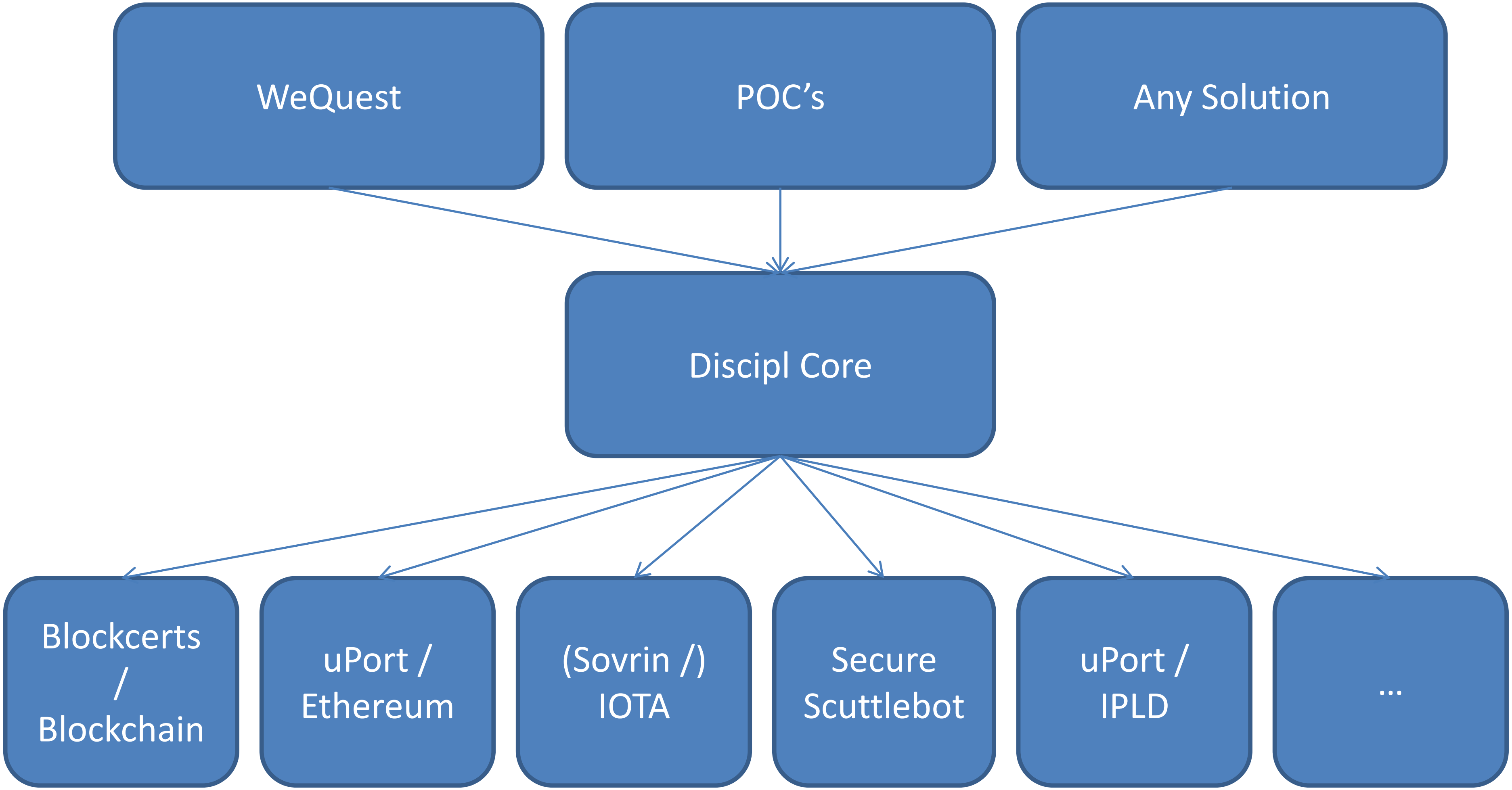
1) Automatically interpreted laws and regulations are used as advise guiding stakeholders to solutions that fulfill needs of all stakeholders

2) When not all stakeholders agree, escalate to peers in local community

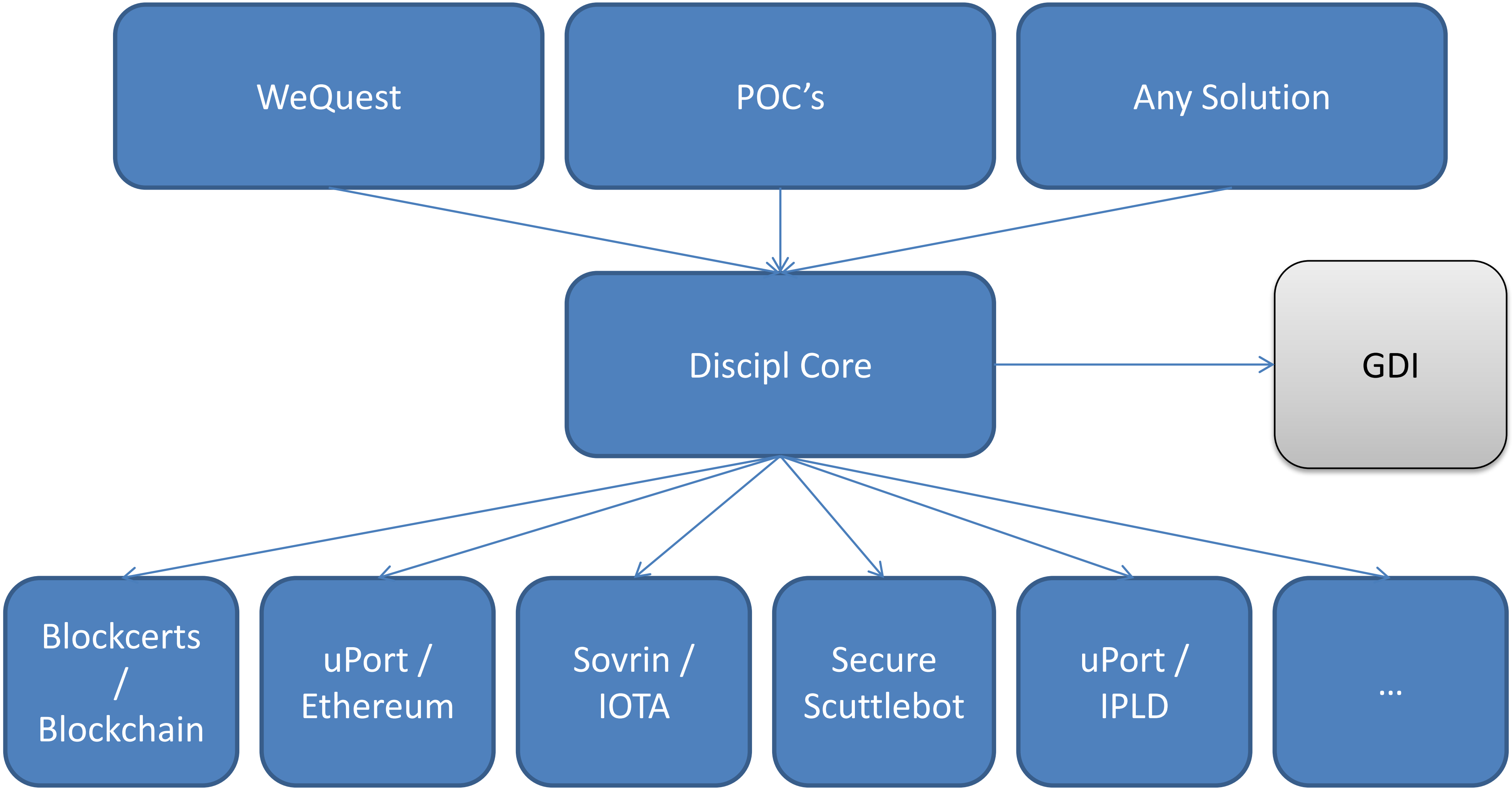
3) When still not all stakeholders agree escalate to experts in judicature to find solution “which works for all”.

And note: all this is free
And note: we’re not talking about conflicts involving real criminal behavior here

Discipl Core Context



Discipl Core Context



WeQuest

POC's

Any Solution

Discipl Core

GDI

Blockcerts / Blockchain

uPort / Ethereum

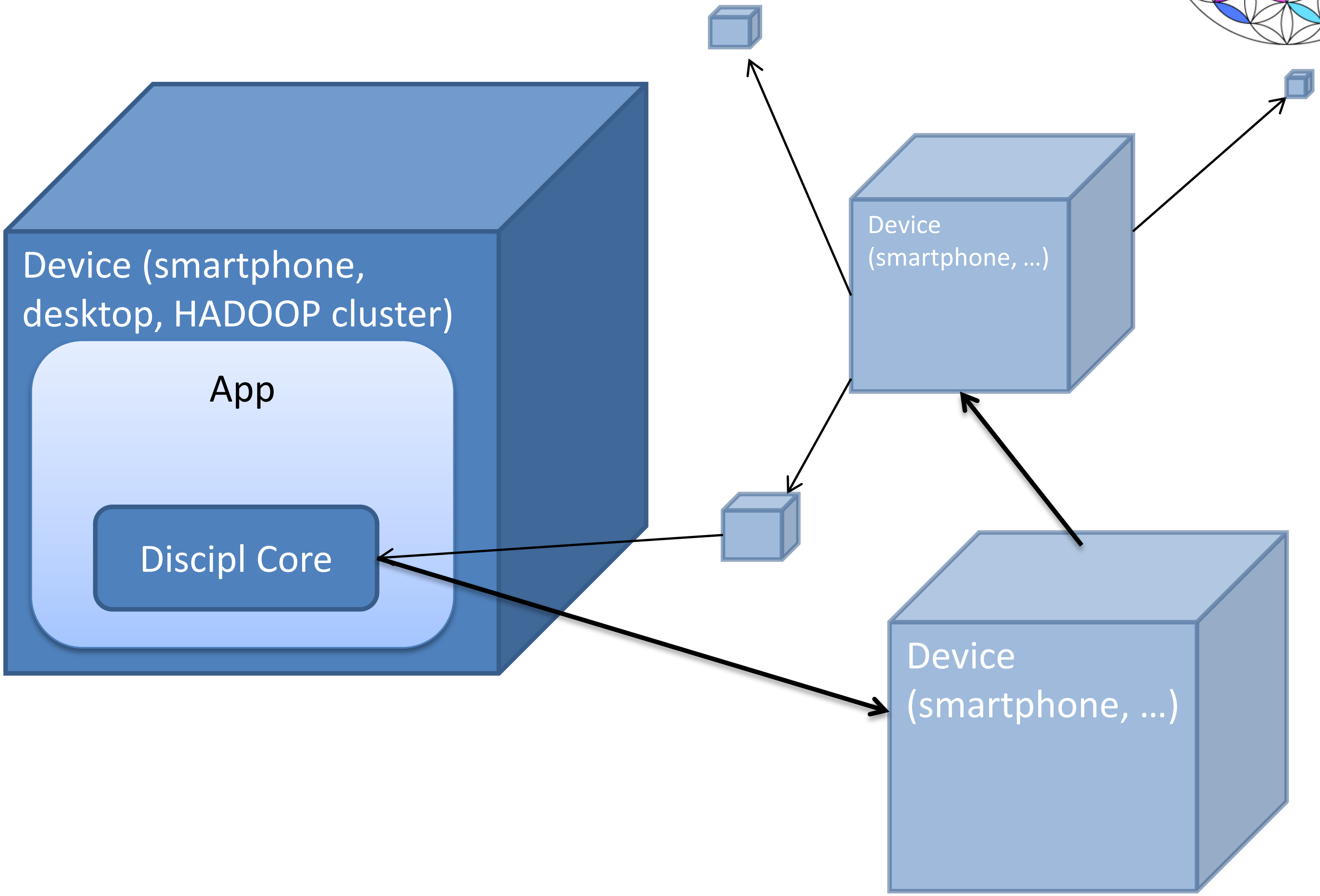
Sovrin / IOTA

Secure Scuttlebot

uPort / IPLD

…

Discipl Core Deployment



Note: access through local (light) nodes possible too dependent on platform

Discipl Core, what is it?

It is a client side API, a potential standard building block:

- **Open source** and **free** (GPL v3.0)
- for applying **Discipl Pattern** :
    - For expressing needs and escalations
    - for accessing Self Sovereign Identity Frameworks based on DID / Linked Data Verifiable Claims
    - for Universal Transactions (DEMO modelling) through claims
    - for quering linked data claims
    - for applying interpred law and regulation expressed as LD
    - for applying audited AI in an advisor role

Discipl (Pattern) API

Need() : express a Need that is to be automaticly fulfilled. If no solution is possible because of conflicting/missing needs, a reason is returned. The need is registered however (pending until revoked).

Escalate() : escalate pending need fulfillment

Solve() : when all agree: override claims to allow need fulfillment

Discipl Self Sovereign Linked Data API

“You are the link!”

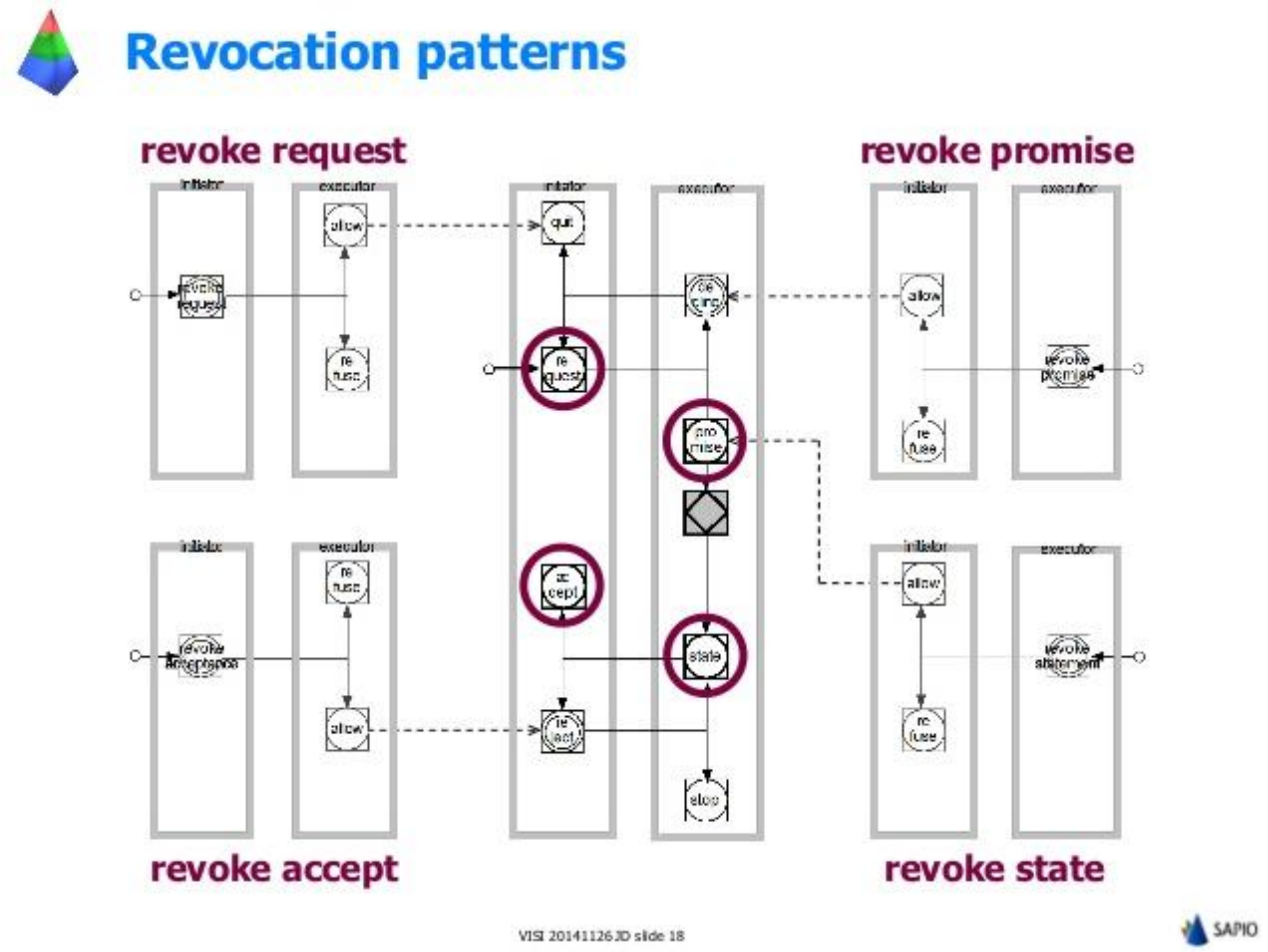
subject – predicate- object

- Claim() : store a claim; which are always in relation to yourself as subject
- Attest() : store a claim about a claim
- Assert() : verify existence of a claim and related attestations
- Proof() : proof to be actual subject of a claim
- Revoke() : revoke a claim (and related attestations); forgetting the link to yourself
- Share() : share claims with others (who would not know what the claims were about otherwise)
- Query() : query linked data claims (shared with you)

Discipl Universal Transactions API

Actions:

- Request()
- Decline()
- Promise()
- State()
- Accept()
- Reject()
- Quit()
- Stop()
- Revoke()
- Allow()
- Refuse()



Revocation patterns

VISI 20141126JD slide 18

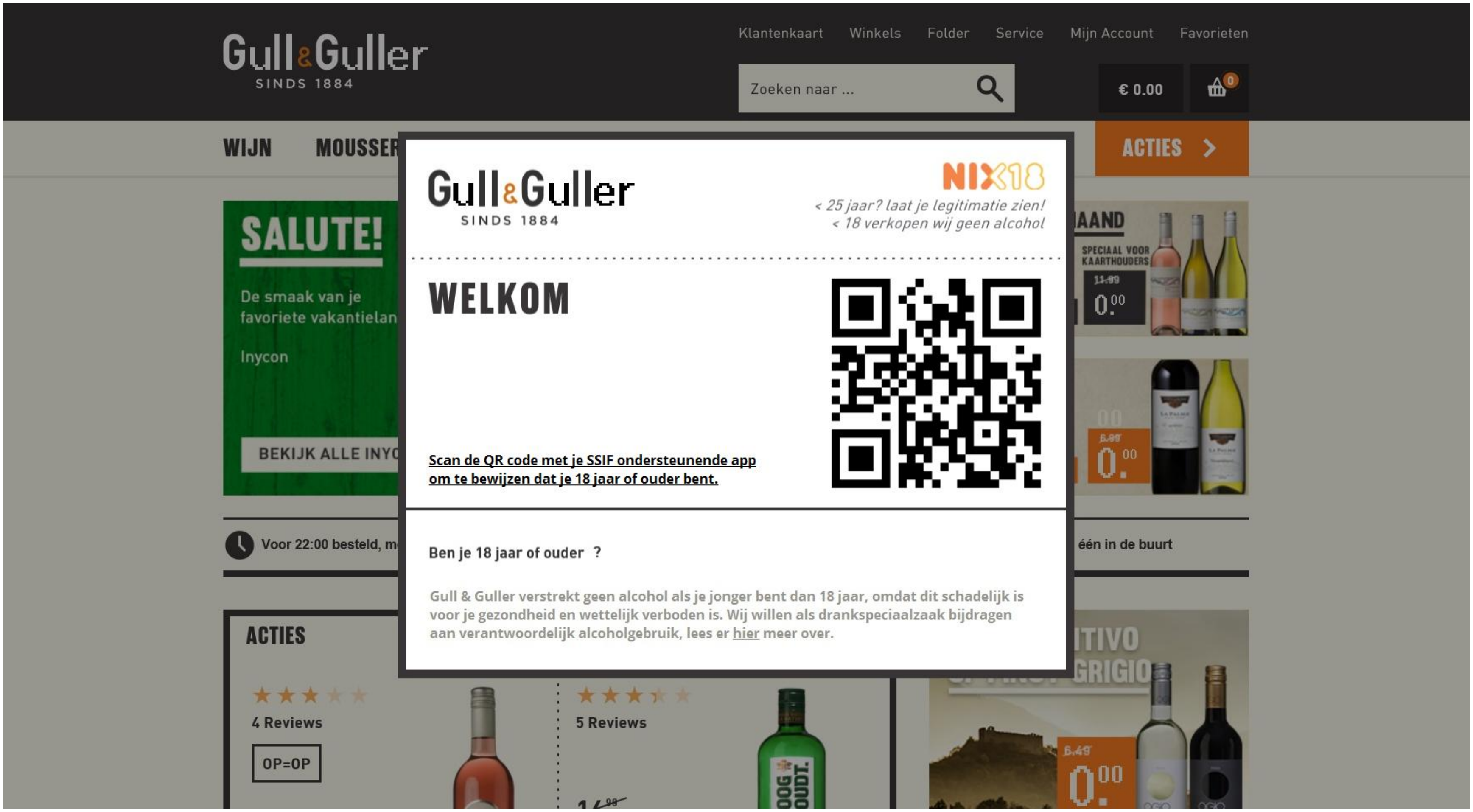
Discipl Universal Transactions API

Communication through claims with only yourself as subject:

- I need …
- I am …
- I can …
- I have …
- I know …
- I … …

(This expressed in JSON-LD format)

example



Gull & Guller
SINDS 1884

< 25 jaar? laat je legitimatie zien!
< 18 verkopen wij geen alcohol

WELKOM

Scan de QR code met je SSIF ondersteunende app om te bewijzen dat je 18 jaar of ouder bent.

Ben je 18 jaar of ouder ?

Gull & Guller verstrekt geen alcohol als je jonger bent dan 18 jaar, omdat dit schadelijk is voor je gezondheid en wettelijk verboden is. Wij willen als drankspeciaalzaak bijdragen aan verantwoordelijk alcoholgebruik, lees er hier meer over.

Discipl Universal Transactions API

Example:

- A: Request (I need a beer)

  (interpreted Laws and Regulations requires subject > 18yrs old, can’t be determined)
- B: Decline (I need prove you are > 18yrs old)
- A: Request (I need a beer, #(I’ am > 18yrs old))
- A: Proof(I’)
- (B: Assert(A:#(I am > 18yrs old), trustedAttestors))
- Promise() (… or Decline())
- …

Discipl Universal Transactions API

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ICTU

Dutch Blockchain Coalition

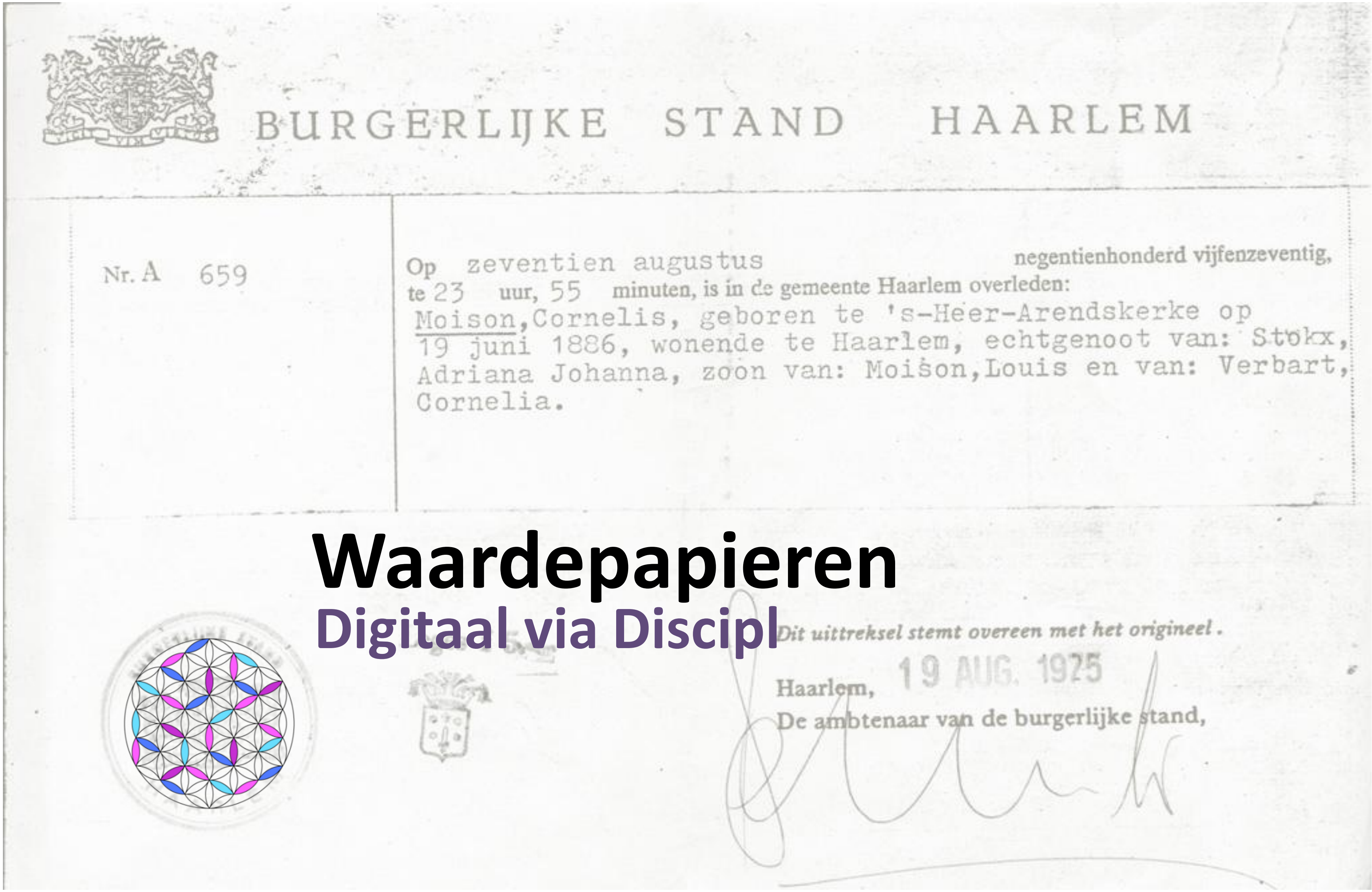
connect and create

TECH RUP TION

Playground for Blockchain, Artificial Intelligence and Climate Change.

Waardepapieren

Digitaal via Discipl



VICIT VIM VIRTUS

BURGERLIJKE STAND HAARLEM

Nr. A 659

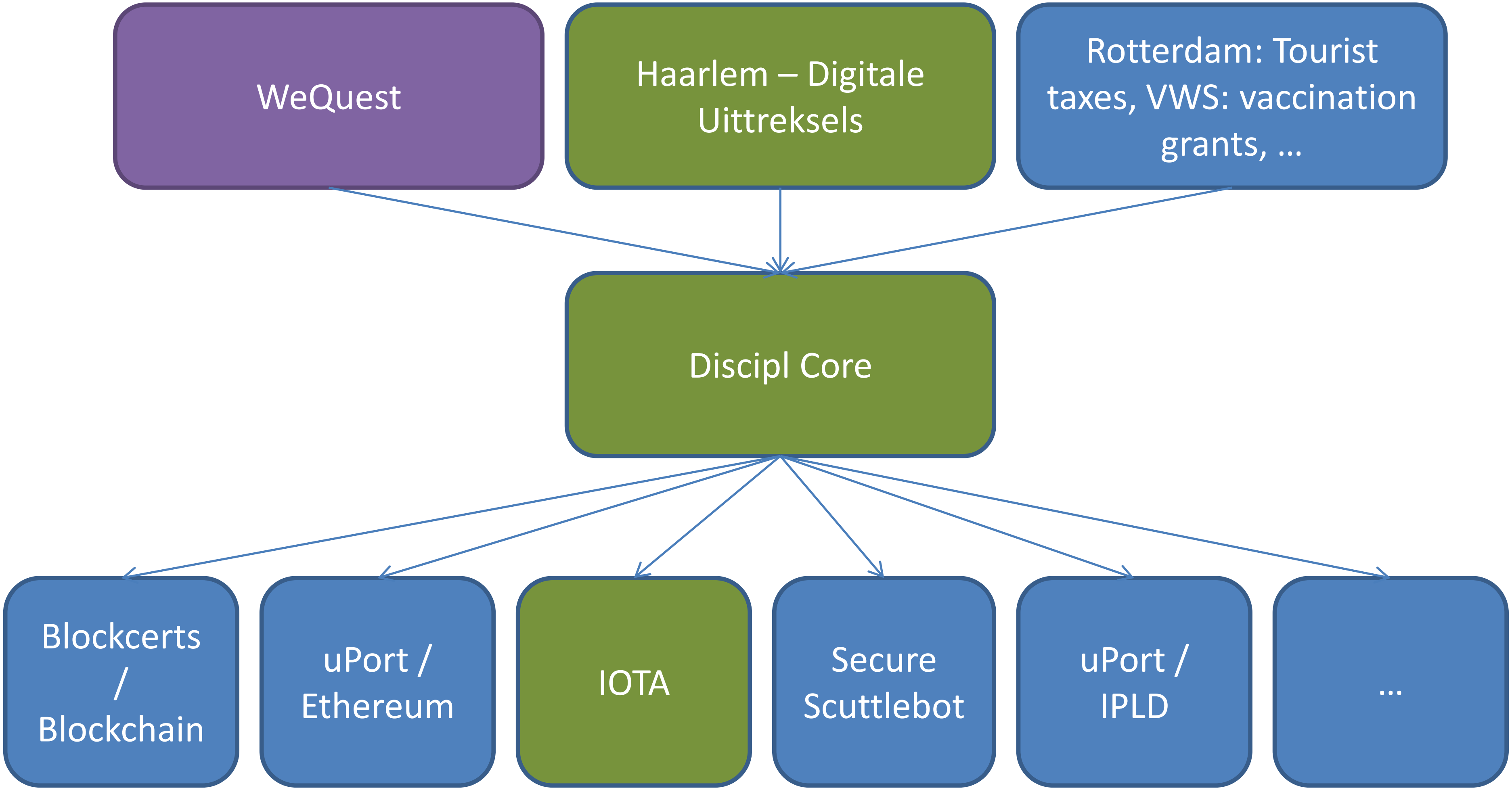
Op zeventien augustus negentienhonderd vijfenzeventig, te 23 uur, 55 minuten, is in de gemeente Haarlem overleden: Moison,Cornelis, geboren te 's-Heer-Arendskerke op 19 juni 1886, wonende te Haarlem, echtgenoot van: Stokx, Adriana Johanna, zoon van: Moison,Louis en van: Verbart, Cornelia.

Dit uittreksel stemt overeen met het origineel.

Haarlem, 19 AUG. 1975

De ambtenaar van de burgerlijke stand,

Current Discipl Core projects @ICTU



WeQuest

Haarlem – Digitale Uittreksels

Rotterdam: Tourist taxes, VWS: vaccination grants, …

Discipl Core

Blockcerts / Blockchain

uPort / Ethereum

IOTA

Secure Scuttlebot

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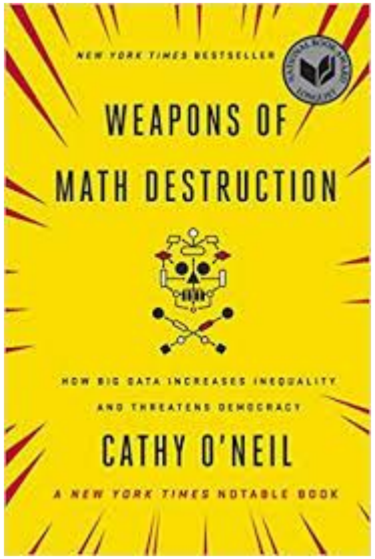
…

API for applying interpreted law and regulation expressed as LD

- **Under investigation**
  - Blauwe kamer
  - commonaccord.wordpress.com
  - …

About AI / Big Data


NEW YORK TIMES BESTSELLER
WEAPONS OF MATH DESTRUCTION
HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY
CATHY O'NEIL
A NEW YORK TIMES NOTABLE BOOK

- Under investigation
- **“Algorithms are opinions”**
  – Cathy O’Neil

- not to be imposed upon => no automated judgement

- Instead AI/Big Data used in helping finding a solution that works for all

About smart contracts

- **Under investigation**

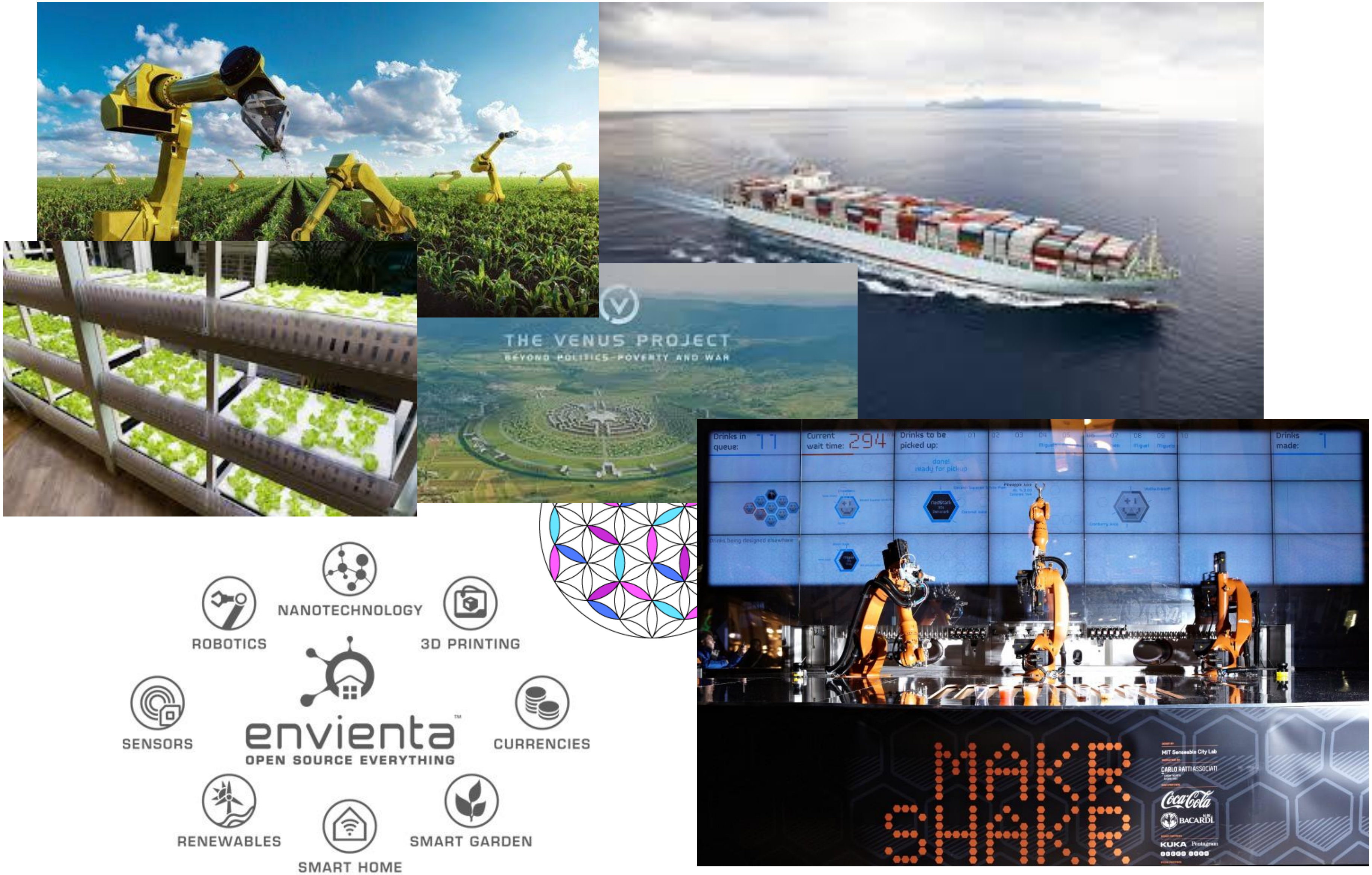
Ethereum smart contracts are mostly used for Self Sovereign Identity features:
It is mostly getters and setters: no real computing needed.

=>

We’re more aligned with Blockstacks vision on Simple Contracts

Intelligent stuff is more in the components with advisory role

IoE / Automation / Robotics



There’s so much more to this…

Let’s start building!

Now

- Raw API soon available on Discipl Github as starting point. No it will not be functional yet.

  http://github.com/discipl/core

For more info

- discipl.org
- info@disicpl.org

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Questions