Where we are, so far

Who is this guy?

Sovereignty and digital autonomy

Digital identity

Conclusion

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Background

- Professor of computer security & privacy at Nijmegen, NL
  - Member of Royal Netherlands Academy of Arts and Sciences
  - Recipient of Stevin premium 2021, highest award in science in NL
- Active in media, societal debates and parliamentary hearings
- Member of national Cyber Security Board
  - Last year: member of intelligence law evaluation committee
  - Currently: member of advice committee on Covid apps
- Non-renumerated chair of Privacy by Design foundation — which runs free IRMA app, see later
Sovereignty on EU agenda. Why?

(1) Pushed by (threatening) strategic IT-dependencies:
- 5G, with Huawei as dominant supplier
- but also AI and quantum computation
- dominant IT-suppliers (“big-tech”), esp. in “cloud”
- fear of tech-colonialism

(2) Picked up by EU-commission chair Ursula von der Leyen upon taking office (dec. 2019)
- “… Europe has all the scientists and all the industrial capabilities it needs to be competitive in these areas …”

(3) Strengthened by Covid dependencies: masks, medicines, vaccines

(4) And by geopolitical instability
- interplay of industry policies and foreign policies
- digital attacks become more aggressive & disruptive

What are we talking about? Goal and means

► Sovereignty is the goal
- in traditional sense: authority over one’s own territory
- includes internal and external recognition & legitimacy

► Autonomy is a means
- being able to take one’s own decisions and carry them out w.r.t. economy, society, governance
- includes undisturbed democratic decision making
- digital autonomy covers the digital domain.

Several recent studies in NL

► Lokke Moerel, Paul Timmers, Reflecties over digitale soevereiniteit, Preadvies Staatsrechtconferentie 2020
► Paul Timmers Freddy Dezeure, Nederlandse strategische autonomie en cybersecurity, jan. 2021 (assignment of the Cyber Security Raad)

See also Cyber Security Board advice on cyber resilience (Integrale aanpak cyberveerbaarheid, april 2021)

Main points

(1) EU is mainly regulatory power (esp. via GDPR), but lacks its own ICT-infrastructure (e.g. >90% EU data on US servers)
(2) Own infrastructure is needed to embed and safeguard own values: autonomy, privacy, transparency, freedom of expression, non-discrimination, duties of care …
(3) Control over ICT-infrastructure determines modern power relations
- In the past: follow the money, but now: follow the data
(4) EU benefits insufficiently from its own innovations
(5) There is no level playing field with current big-tech
- buying up innovations at early stage, incorporating useful technology
- whereas threatening technology is killed
(6) Economical openness is no longer sacred
(7) Knowledge, knowledge, knowledge!!
What now?

▶ NL/BE/LU cannot do everything themselves. What, with whom?
▶ Reports give lots of policy-blabla: monitoring, further research, more debate & discussion, and of course more reports . . .

Two main points

(1) Substantial investment in own ICT-innovation
   • strong knowledge position is of strategic interest
   • otherwise you become a puppet and others decide for/about you
   • science-funding in EU bottom-up, themes come from researchers
   • more steering needed, on strategic topics (like in US)

(2) Building own ICT-infrastructure
   • Own data in own datacenters, a.o. by stimulating national hosting (like with Corona apps), see also EU GAIA X initiative
   • Electronic identity is a strategisch topic
   • Compartimentalisation instead of global ICT

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Von der Leyen, State of the Union (EP, sept’2020)

▶ “Europe’s Digital Decade (2020-2030)”
▶ Focus on European cloud, AI and on European digital identity
▶ That is why the Commission will soon propose a secure European e-identity: One that we trust and that any citizen can use anywhere in Europe to do anything from paying your taxes to renting a bicycle. A technology where we can control ourselves what data and how data is used.
▶ EU digital wallet-id plans appeared in June 2021 — as eIDAS revision

Security and identities

▶ Essential for security: knowing who you are dealing with
  • e.g. in electronic banking
  • or in buying alcoholic drinks
  • or during video calls/conferences (recall EU defence ministers)
▶ Identity requests must be proportional:
  • for online game a proof of ‘older than 18’ suffices
  • sufficient for ordering a book only: address + bank account number
  • for logging into government site a citizen numb er suffices
▶ NL has DigiD for the public sector: end-of-life
  • Interior ministry in charge of successor, no vision or decisiveness
  • Big-IT is ready to take over (esp. Facebook & Apple)
  • strategic area
  • Parliamentary discussion of Digital Identity Law (“WDO”) is taking 4 years
Global platforms

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<th>China</th>
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The shared US-CN agenda, versus EU

- Both US and CN platforms wish to control digital identities
  - they wish to precisely register who is doing what & when online
  - goal: build up detailed profiles
- The US platforms have mostly commercial motives
  - but they have been used for political manipulation too
- The CN platforms are instrumental in maintaining state control
  - see e.g. their role in ‘social credit scores’

These systems work on the basis of a unique identifier (number), per individual, that is used everywhere — very unlike attributes

- Strong EU sentiment: there are better ways to do this, with more respect for human (digital) rights & dignity
- Decentralised, attribute-based approach combines diversity & easy interoperability: ideal for EU sovereignty

IRMA app, for revealing only relevant attributes

Essentials:
- attributes instead of identities
- collected by user him/herself
- attributes are reliable (digitally signed by source)
- decentralised architecture: attributes only on users own phone
- IRMA is free & open source, up-and-running, with ±50K registrations, worldwide

The IRMA app as everyone’s personal hub

attribute sources
- municipalities
- banks
- edu-registers
- healthcare registers
- etc

attribute receivers
- e-government
- webshops
- schools
- healthcare portals
- etc
Centralised versus decentralised, schematically

**Centralised:** everything goes via the Identity Provider (think Facebook)

![Diagram of centralised system]

**Decentralised:** everything goes via the User (think IRMA)

![Diagram of decentralised system]

**Note:** Data flows determined power relations in modern societies!

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**eID breakthroughs in spring 2021**

(1) **From Dutch Senate**
- NL Senate demands open source (OS) for future Dutch eID
- Compare: Corona apps are OS, for transparency & citizen trust
- Minister is reluctant, waters down to OS as ‘weighting factor’

(2) **From EU-commission**
- EU digital wallet-id, based on attributes, for public & private use
- Clearly based on IRMA ideas — after own eIDAS revision input
- **missing:** EU demands no open source nor decentralisation

Open source is important for EU digital autonomy
- no vendor lock-in
- stimulus for local development, not at IBM / Oracle / Huawei…

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**Main points**

- Digital sovereignty is high on EU agenda — and also more in NL
- **Main elements:**
  - strong knowledge position, via planning and focussed investments
  - development of own ICT-infrastructure, against tech-colonialism
- IRMA is decentralised, open source community effort, growing
  - not only as actual up-and-running app, but also as source of ideas
- **Digital identity is of geo-strategic importance**
  - also determining: in what kind of society do we wish to live
  - in essential political matter, so Parliaments should play active role
  - EU takes back initiative with attribute-based wallet-id
- Open source is powerful mechanism for digital autonomy
- General concern: are we doing enough to safeguard public values in the digital world?