Decoding Europe's new fascination with 'tech sovereignty'

Since COVID-19, EU leaders are pushing for greater independence from US and Chinese technology. But what would that mean? Science Business begins a series of special reports and events

Dy Éanna Kally

Prof. Lokke Moerel

Digital Enlightenment Forum 23 February 2021

Sovereignty



- Political term No firm definition
 - About territoriality, jurisdiction, nation states, the people
- External legitimacy
- Internal legitimacy

Digital Sovereignty



Digital Sovereignty

i.e., the ability to decide and act autonomously on the essential digital aspects of our longer-term future in the economy, society, and democracy.

Data Sovereignty



Digital Sovereignty

Tech Sovereignty

> Digital Sovereignty

> > Sovereignty

Data Sovereignty

having control over the storage and processing of data and over who has access thereto

September 2020

Commissioner Thierry Breton: "European data should be stored and processed in Europe because they belong in Europe"

Why under threat?

CYBER THREATS

- Critical infrastructure *real world impact*
- IP theft *economic impact*
- Digital extortion ransomware
- Misinformation / fake
 news *internal legitimacy*
- Critical functions, like the courts –*Internal legitimacy*



Cyberangriff auf Berliner Kammergericht

EXKLUSIV UPDATE 28.01.2020, 11:15 Uhr

Russische Hacker könnten Justizdaten gestohlen haben

Hinter dem Cyberangriff aufs Kammergericht steckt organisierte Kriminalität – vermuten Sicherheitsexperten. Die Täter hatten wohl Vollzugriff auf die Daten. von <u>ROBERT KIESEL</u>, <u>ALEXANDER</u> <u>FRÖHLICH, SEBASTIAN CHRIST UND FRANK JANSEN</u>



Stecken russische Hacker hinter dem Angriff?

Die Äußerung des Sprechers, der keine weiteren Details nennen wollte, lässt einen Zusammenhang mit russischen Hackern vermuten. Täter wie die von deutschen Sicherheitsbehörden als APT 28 bezeichnete Hackergruppe waren oder sind immer noch für einen russischen Geheimdienst aktiv. APT 28 war unter anderem verantwortlich für einen Angriff auf den Bundestag, bei dem große Datenmengen erbeutet wurden.

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 news



TECH COLD WAR

- Digital technologies are battlefield for global supremacy (Al, 5G, chip technology)
- Also Apps & Data!

Announcing the Expansion of the Clean Network to Safeguard America's Assets

PRESS STATEMENT

MICHAEL R. POMPEO, SECRETARY OF STATE

AUGUST 5, 2020

* * *

The five new lines of effort for the Clean Network are as follows:

- Clean Carrier: To ensure untrusted People's Republic of China (PRC) carriers are not connected with U.S. telecommunications networks. Such companies pose a danger to U.S. national security and should not provide international telecommunications services to and from the United States.
- Clean Store: To remove untrusted applications from U.S. mobile app stores. PRC apps threaten our privacy, proliferate viruses, and spread propaganda and disinformation. American's most sensitive personal and business information must be protected on their mobile phones from exploitation and theft for the CCP's benefit.
- Clean Apps: To prevent untrusted PRC smartphone manufacturers from pre-installing –or otherwise making available for download – trusted apps on their apps store. Huawei, an arm of the PRC surveillance state, is trading on the innovations and reputations of leading U.S. and foreign companies. These companies should remove their apps from Huawei's app store to ensure they are not partnering with a human rights abuser.
- Clean Cloud: To prevent U.S. citizens' most sensitive personal information and our businesses' most valuable intellectual property, including COVID-19 vaccine research, from being stored and processed on cloud-based systems accessible to our foreign adversaries through companies such as Alibaba, Baidu, and Tencent.
- Clean Cable: To ensure the undersea cables connecting our country to the global internet are not subverted for intelligence gathering by the PRC at hyper scale. We will also work with foreign partners to ensure that undersea cables around the world aren't similarly subject to compromise.

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TECH COLD WAR

- Digital technologies are battlefield for global supremacy (Al, 5G, chip technology)
- Export restrictions

BIG TECH

- Best in Class (cyber security)
- Market dominance US hyperscalers (65%)
- Vendor lock-in (*lack of interoperability & portability*)
- All EU data in U.S. clouds
- Access to data foreign nations (Schrems II)
- Hoovering up start-ups 9

Reality check EU

Europe braces for coronavirus-induced drug shortages

With China responsible for most of the EU's pharma ingredients, supplies are at risk.

#StrongerTogether

By SARAH WHEATON AND CARMEN PAUN | 2/14/20, 1:12 PM CET | Updated 2/17/20, 3:55 PM CET

Health sovereignty: How to build a resilient European response to pandemics

Policy Brief

Jonathan Hackenbroich, Jeremy Shapiro, and Tara Varma

29th June, 2020

picture alliance / Photoshot - ©

Ursula von der Leyen - inaugural speech

In the digital age, we must continue on our European path.

In concrete terms:

First, we must have **mastery and ownership of key technologies in Europe**. These include quantum computing, artificial intelligence, blockchain, and critical chip technologies.

To do this, to close the gaps that exist now, we must act together. Let us pool our resources, our money, our research capacity, our knowledge. And let us put this into practice.

Angela Merkel – kick off EU presidency

"A strong, sovereign and resilient Europe" is the goal of the German plan, officials said. "The coronavirus crisis has made it clear that Europe needs to strengthen its technological and data sovereignty. It must therefore be the primary aim of Europe's future research and development policies to maintain and further expand Europe's technological sovereignty in key areas," the German research ministry declared in a summary of its plans published 9 July.

U-TURN

Angela Merkel – kick off EU presidency

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Is it all about the data?

It is about control about economic ecosystems

- Large-scale use of data analysis by means of AI requires enormous computing power
- The cloud infrastructure required will be become the foundation of the EU innovation knowledge infrastructure
- Lack of control over key technologies (like AI) introduces new dependencies
 - AI may facilitate cyber-attacks by allowing existing vulnerabilities to be detected and exploited automatically and on a large scale.
 - But also automatically detect and restore vulnerabilities in software.
 - Post-quantum cryptography should ultimately enable data encryption that can withstand attacks using the computing power of a quantum computer.

GDPR considered a success

- 118 countries GDPR style legislation (India, Australia, Brazil...)
- Export of GDPR in free trade agreements (Japan, Israel, New Zealand)



Privacy is a human right, we need a GDPR for the world: Microsoft CEO weforum.org



euobserver

f (Join EUobserver

NEWS / SCIENCE, TECH & RESEARCH

ANALYSIS

EU in race to set global Artificial Intelligence ethics standards

In global AI race, Europe pins hopes on ethics

Boosting consumer trust in European AI applications will help Continent catch up with competitors, Brussels believes.

By JANOSCH DELCKER | 4/25/18, 3:12 PM CET | Updated 4/26/18, 7:16 AM CET

GDPR protects data, not our economic ecosystem

Jun 26, 2018, 07:15am EDT

GDPR Will Make Big Tech Even Bigger



Jedidiah Yueh Forbes Councils Member Forbes Technology Council COUNCIL POST | Membership (fee-based) Innovation

POST WRITTEN BY

Jedidiah Yueh

Bestselling Author of Disrupt or Die. Delphix executive chairman and founder. Avamar

'Referees never win the match'

- Rules do not protect
- Innovation is **on regulatory compliance** itself
- GDPR requires "Explainable AI"

Home + Tech news + Google Brain Built a Translator so Al Can Explain Itself

Google Brain Built a Translator so Al Can Explain Itself

🔲 By Udit Agarwal | January 12, 2019 | 👁 23 | 🗭 1

Schrems II

• ECJ: data transfers to U.S. require **additional safeguards**

Homomorphic encryption encryption allowing operations to be performed on the data without first having to decrypt it.

IBM Research Europe

IBM Releases Fully Homomorphic Encryption Toolkit for MacOS and iOS; Linux and Android Coming Soon

Time for strategic decisions

Every project: there is no good alternative If we keep going: there will never be a good alternative.. **The tragedy of the Commons**

Example:

- The Netherlands has no national cloud strategy
- Various pieces of cloud guidance: addressing specific dependencies

Digital sovereignty

- Safeguarding autonomy not only for specific system/supplier
- Larger scope of economy, society and democracy

Reality check on digital autonomy

- It is **not** about self-sufficiency (not even for the EU)
- No one has a good idea how much it will cost

Research and industry Agenda

- What are the current and future critical technologies?
- What is the infrastructure we need for that?
- How do we get the data?
- What are our **one-sided** dependencies?
- Strength at home, is strength internationally...

Reality check on digital autonomy

EU strategy:

- What do we need to have ourselves
- What do we need to protect?
- Strategic partnerships with **inter**dependencies
 - = open strategic autonomy

Member states: which elements are WE going to focus on

- ...that play to our strengths
- ...that fit into EU research agenda
- ...that fit our key economic sectors

Then decide: how much investment is required... **Conundrum:** why do not all MS participate in GAIA-X?

How to pursue strategic autonomy?



EU and (digital) strategic autonomy

