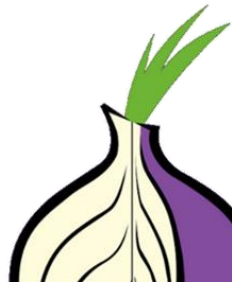
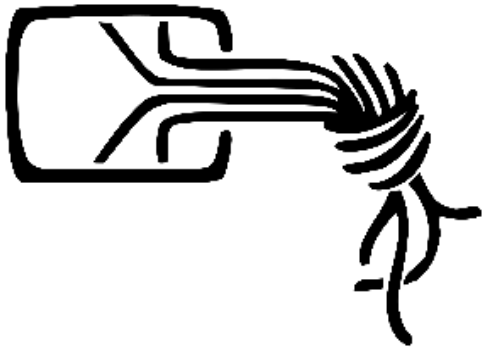


Omnipresent Biometric Surveillance
OWASP Hamburg Stammtisch
Feb 7, 2024

Matthias Marx



Me



▶ **Biometrics**

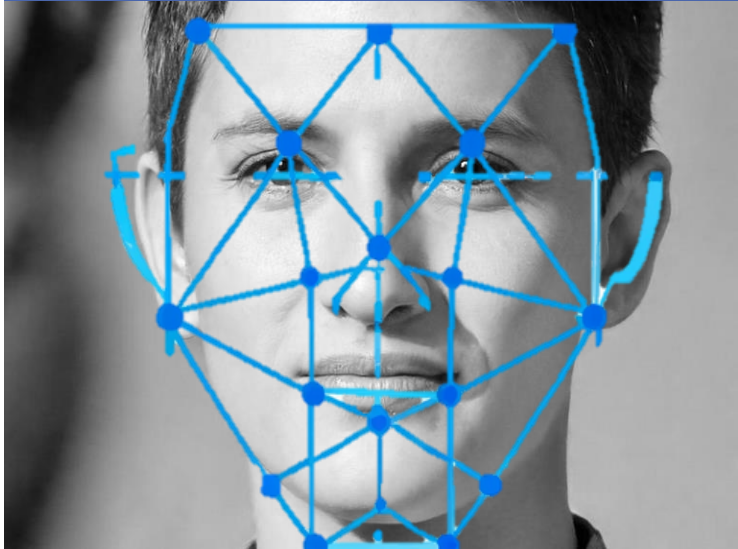
- Biometric surveillance in Germany
 - Omnipresent biometric surveillance
 - Fighting biometric surveillance
-

Biometric characteristics: Distinctive, measurable characteristics or behavioral traits of an individual that can be used for identification

Fingerprint



Face



Gait



- **Uniqueness:** The characteristic is sufficiently different for every individual
- **Permanence:** The measurement does not depend on the person's age or the time of measurement
- **Measurable:** Ease of acquisition
- **Universality:** Every person should possess the trait

Why biometrics?

Access control



Law enforcement



Border control



Financial transactions



Attendance tracking



Focus for today: Facial recognition

You cannot hide



- **Chilling effect:** People unconsciously alter their behavior to avoid potential negative consequences
- **Permanence:** Unlike passwords, biometrics, once leaked, cannot be changed
- **Loss of control:** Concealing certain biometric features like facial structures is a challenge
- **End of offline anonymity:** Individual movements could be tracked permanently

-
- Biometrics

- ▶ **Biometric surveillance in Germany**

- Omnipresent biometric surveillance
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-

Sicherheitsbahnhof Berlin Südkreuz (2017 - 2018)

Do not trust the authorities: Pilot project with manipulated results



- Federal police tested facial recognition: How well are faces in a crowd recognized
- Final report of the police: huge success, wants to use the technology more frequently
- The **police manipulated the results** to make them look less bad
- Every day, more than 600 passers-by are wrongly recognized as wanted persons

Hamburg G20 (2017 - 2020)

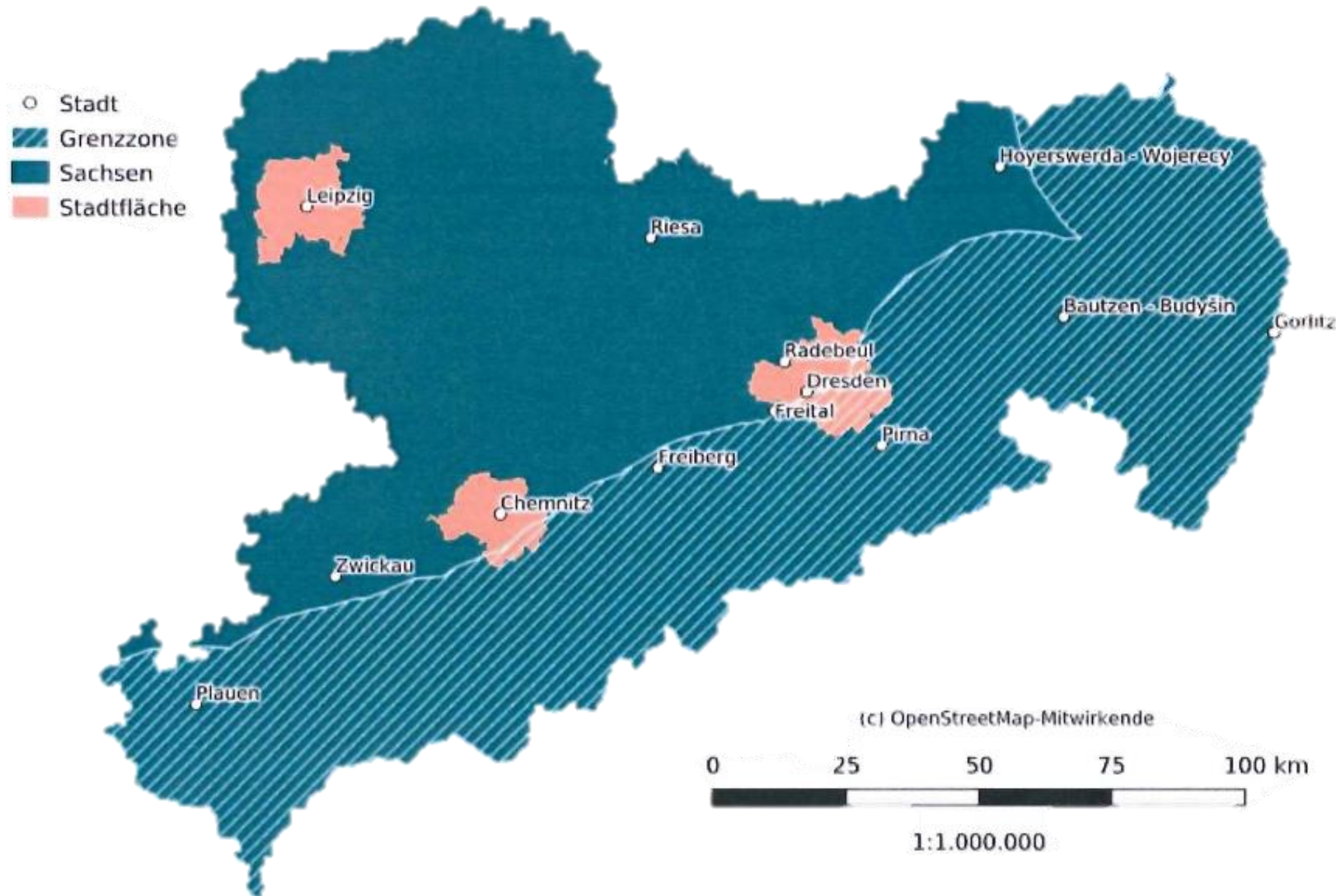
Police laughs at Data Protection Commissioner and ignores deletion order



- Police collects biometric data of 100.000 individuals
- Hamburg DPA: “**insufficient legal justification** for the biometric analysis of faces that could justify such intensive encroachments on fundamental rights of the majority of bystanders”, **orders to delete the data**
- Police: 🙈
- DPA and police fought in court. The case was not finally decided

Sachsen (2019 - 2023 - today)

Automatic facial recognition in border areas is ineffective and too expensive



- Surveillance is limited to the border area (30km or about 50% of Saxony)
- To combat serious cross-border crime such as bicycle theft
- Very high costs for technical and human resources
- The project was to be terminated by the end of 2023
- Multiple police departments continue or even upgraded their installations

Mannheim (2018 - today)

Stick figures that do not behave appropriately trigger an alarm

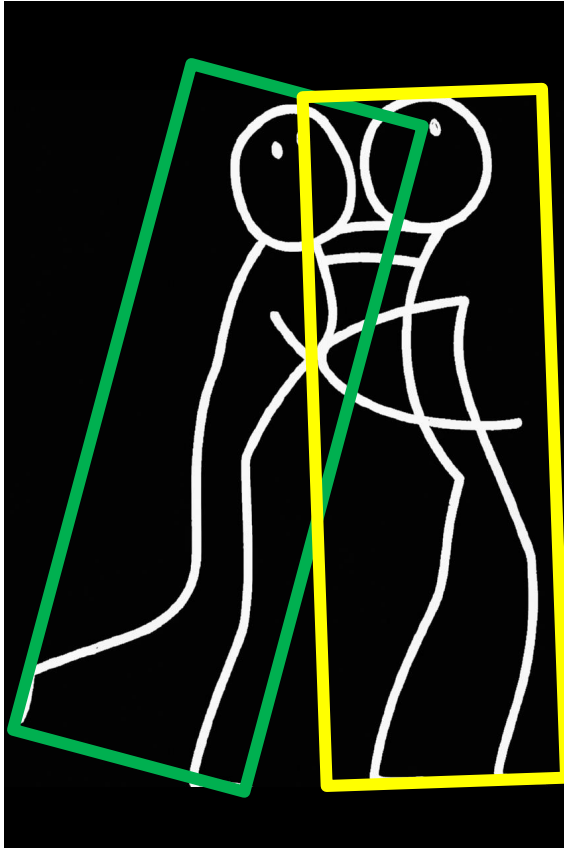
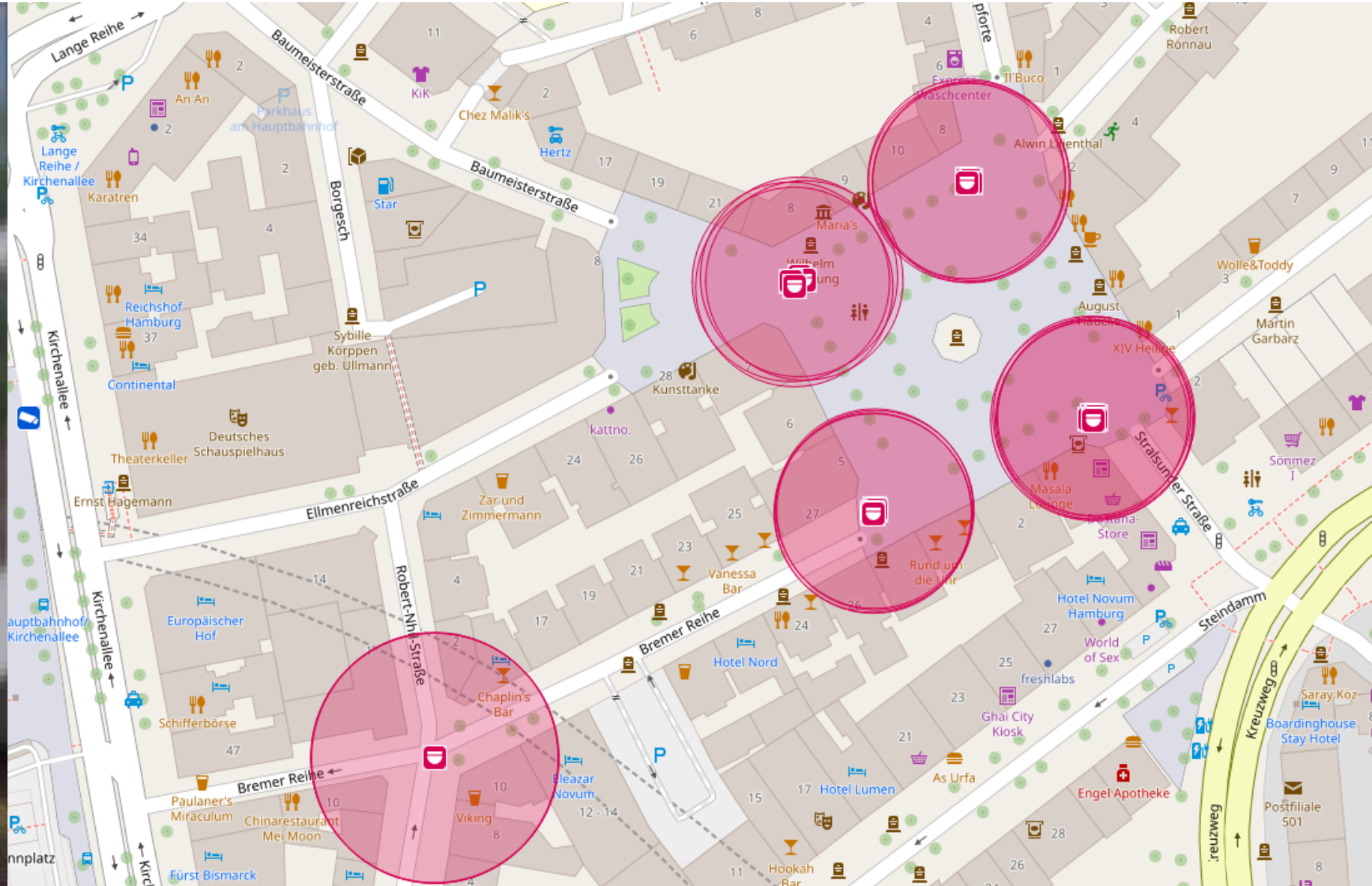


Image: [click](#)

- “Privacy-friendly” surveillance
- People are transformed into stick figures
- Fighting stick figures should trigger an alarm
- AI was supposed to be trained with action films and actors. Did not work
- **Five-year pilot project extended by three years**

Hansaplatz (2023 - today)

Hamburg copies the “success story” from Mannheim



Hansaplatz (2023 - today)

SPD and Greens do not know their coalition agreement

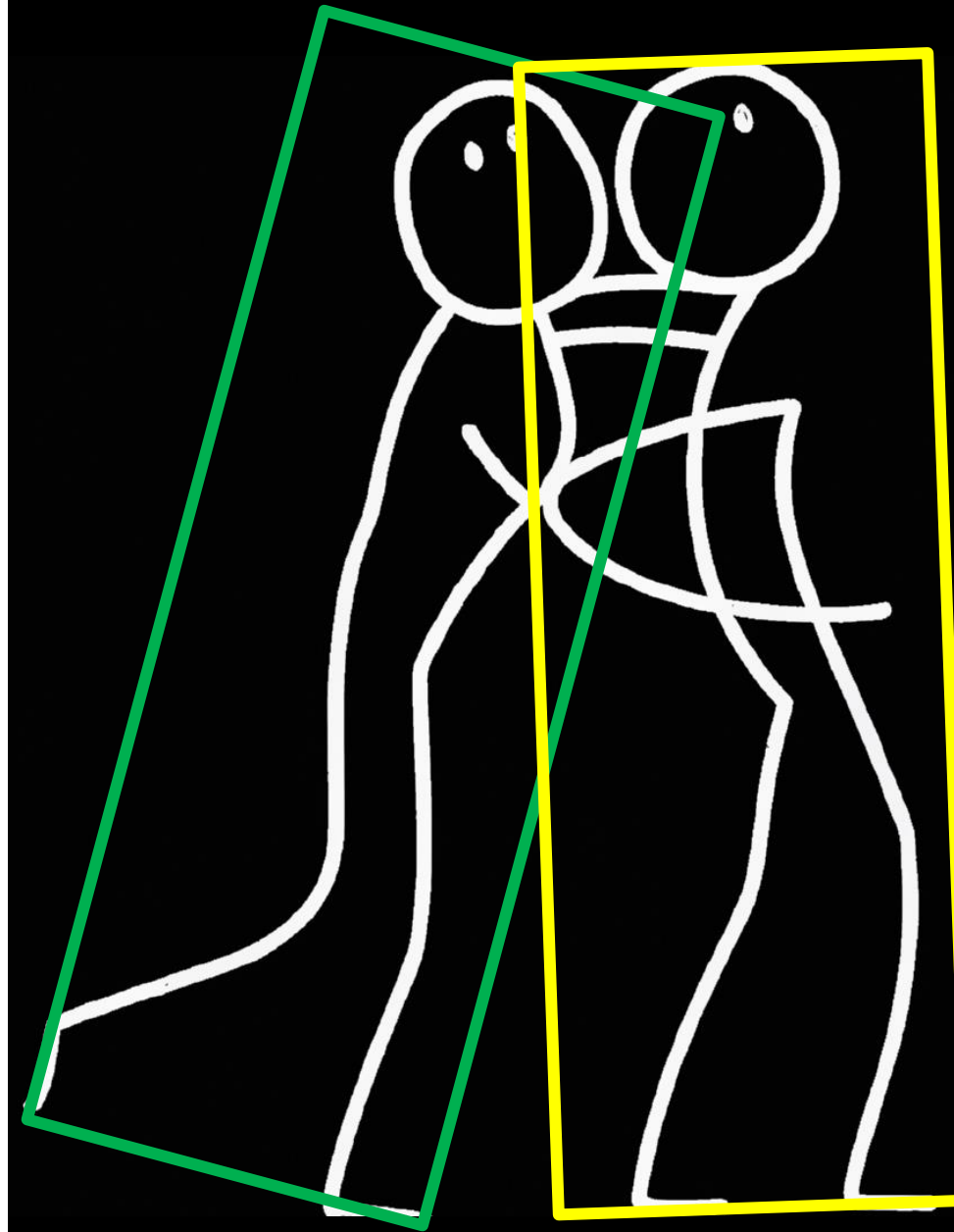
Coalition agreement

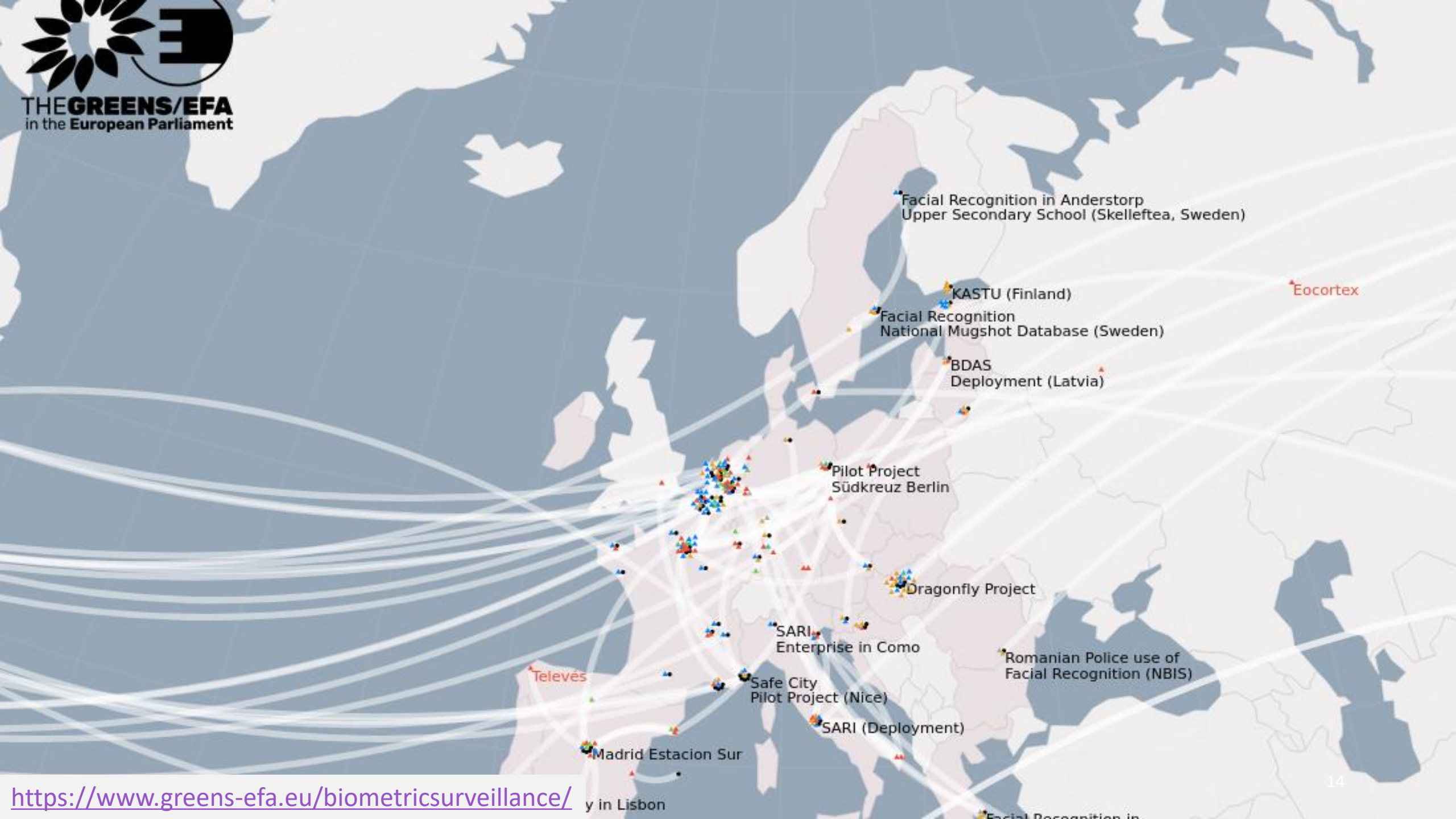
When using AI applications in Hamburg authorities, we will ensure that **transparency, traceability and verifiability** are guaranteed ...

We also want to establish a cross-authority standard for verifying the **non-discrimination** in artificial intelligence and algorithms

Reality check

- Civil society was not involved before or after the first pilot
- No response to freedom of information requests
- Police cannot tell how the AI was trained or how the AI reacts to wheelchair users





Eocortex

Televès

-
- Biometrics
 - Biometric surveillance in Germany
 - ▶ **Omnipresent biometric surveillance**
 - Fighting biometric surveillance
-

The Secretive Company That Might End Privacy as We Know It

A little-known start-up helps law enforcement match photos of unknown people to their online images — and “might lead to a dystopian future or something,” a backer says.

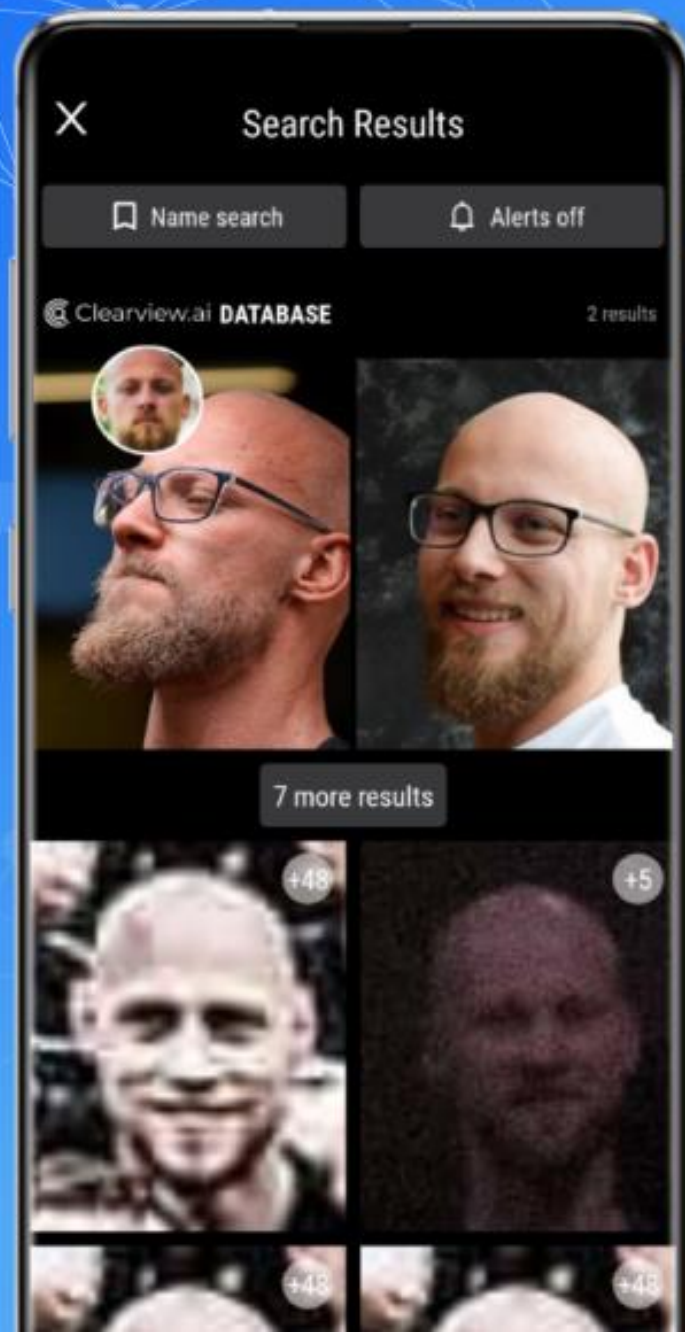




INTRODUCING CLEARVIEW AI MOBILE

The power of **20+ billion images**, highly accurate **#1 NIST rated facial recognition technology*** in the field for humanitarian uses and investigations.

[LEARN MORE](#)



* NIST FRVT 1:1, October 2021

Clearview AI returns potential matches alongside with metadata and URLs



Photo, URL, Metadata

Photo, URL, Metadata

Photo, URL, Metadata



Social network

- Name
- Hometown
- Personal interests
- Political opinion



Dating platform

- Sexual orientation



Company website

- Name
- Employer

Clearview AI returns potential matches alongside with metadata and URLs



Photo, URL, Metadata

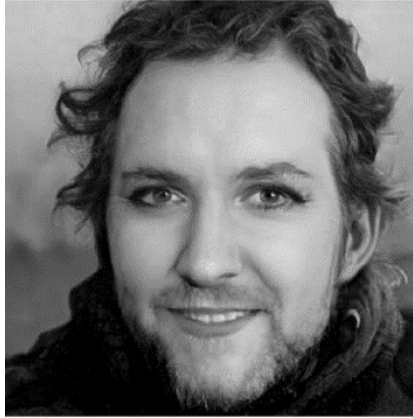
Photo, URL, Metadata

Photo, URL, Metadata



Social network

- Name
- Hometown
- Personal interests
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Dating platform

- Sexual orientation



Company website

- Name
- Employer

Face Search Engine Reverse Image Search

UPLOAD PHOTO AND FIND OUT WHERE IMAGES ARE PUBLISHED



Upload a photo



Or you can take a photo with the device's camera. Don't worry, we will not store it!

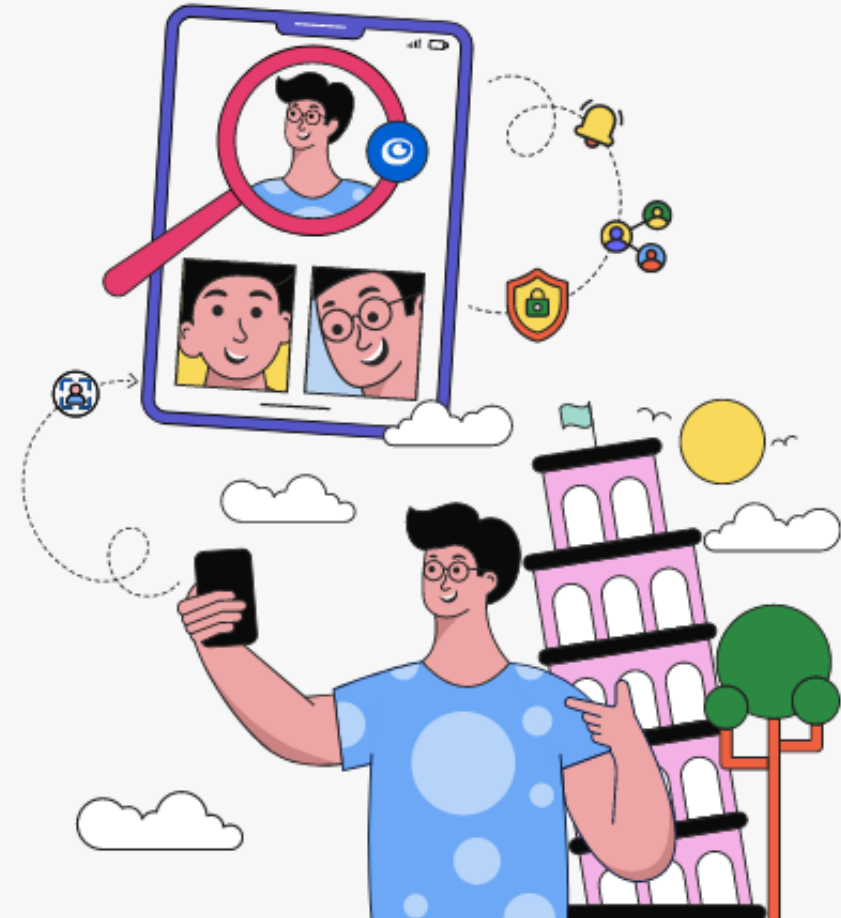
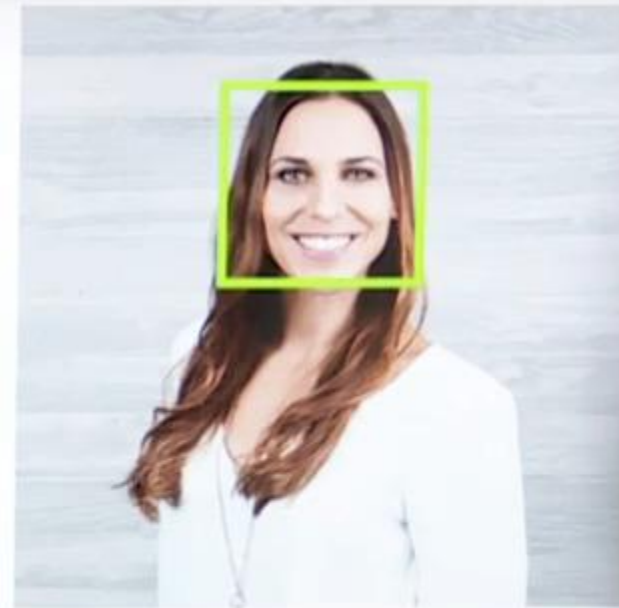


Image: [click](#)

Proud founders

Łukasz Kowalczyk and Denis Tatina



Automatische Gesichtserkennung

So einfach ist es, eine Überwachungsmaschine zu bauen

Unsere Gesichter hinterlassen Spuren im Internet. Ein Test zeigt: Mit wenig Aufwand lassen sie sich finden – und identifizieren.

Timo Grossenbacher und Felix Michel

Freitag, 07.02.2020, 16:17 Uhr

-
- Biometrics
 - Biometric surveillance in Germany
 - Omnipresent biometric surveillance

 **Fighting biometric surveillance**

Sending a data subject access request to Clearview AI

Please **provide access to my personal data**, and the following information:

- the **purposes** of the processing;
- the **categories** of personal data concerned;
- the **recipients** or categories of recipient to whom the personal data have been or will be disclosed;
- where possible, the envisaged **period for which the personal data will be stored**, or, if not possible, the criteria used to determine that period;
- where the personal data are not collected from me, any available information as to their **source**;
- the existence of automated decision-making, including profiling, and at least in those cases, meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing for me.

If you need any more information from me, please let me know as soon as possible. Please note that I have the right to receive this information in a standardized format within **30 days** of your receipt of this request.

If you do not normally deal with these requests, please pass along this letter to your Data Protection Officer. I can be contacted by email.

After 1 month, Clearview AI provided the search results for my face

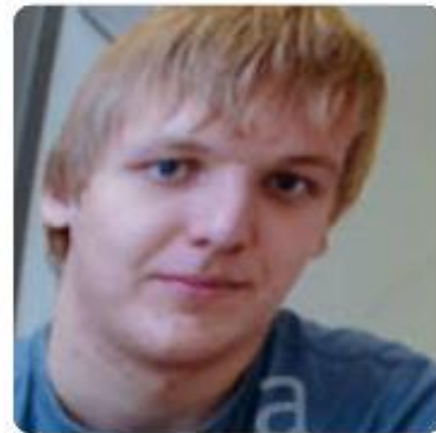
Face Search Results

Report prepared Feb 18, 2020

In order to complete your request, we have generated this report containing Clearview search results for the image that you shared with us, which is labelled "Original Search Image" below. Search result images are enumerated with corresponding public web page titles and URLs below.



Original Search Image



1



2

Image Index

- 1. Students Henning Stock Photos & Students Henning Stock Images - Alamy. <https://www.alamy.com/stock-photo/students-henning.html>
- 2. (FILE) An archive photo dated 28 November 2012 shows students Henning Stock Photo: 52583329 - Alamy. <https://www.alamy.com/stock-photo-filean-archive-photo-dated-28-november-2012-shows-students-henning-52583329.html>

After 4 months, Clearview AI provided the search results for my face again They used the search image that they “deleted” three months before

Face Search Results

Report prepared May 18, 2020

Disclaimer: In order to complete your request, we have generated this report containing Clearview search results for the image that you shared with us, which is labelled “Original Search Image” below. Search result images are enumerated with corresponding public web page titles and URLs below.



Original Search Image



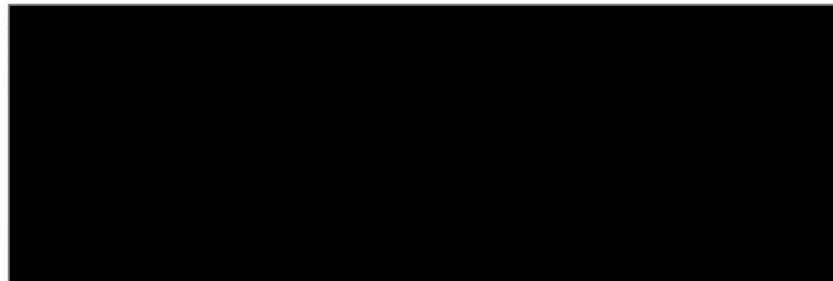
1



2



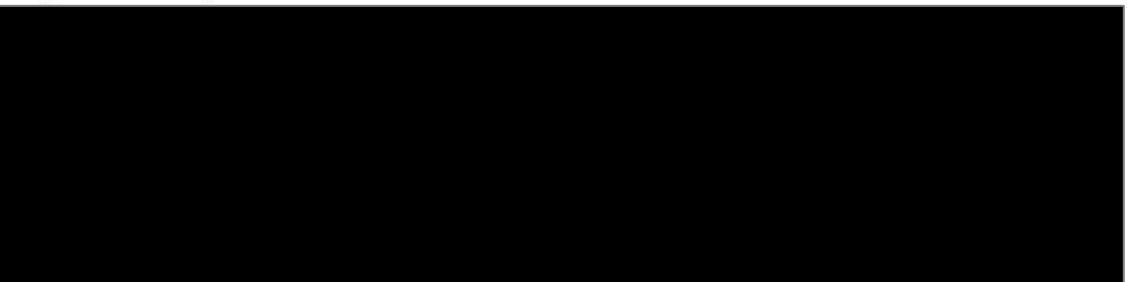
3



8

9

10



4

5

6

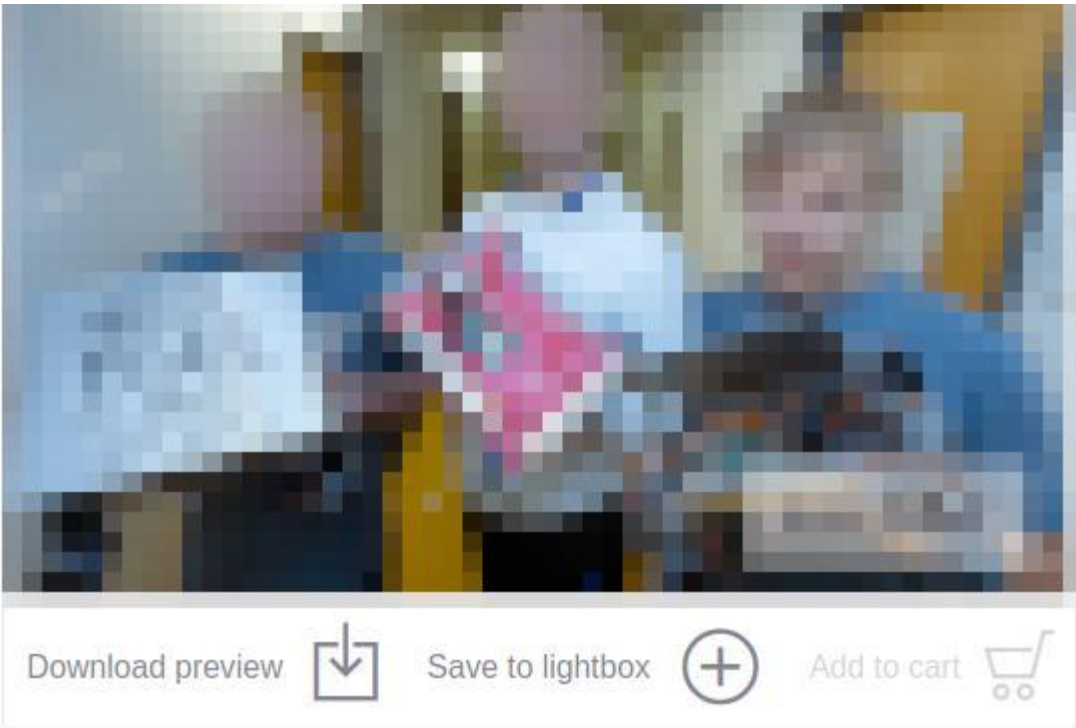
7

Image Index

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- 2. (FILE) An archive photo dated 28 November 2012 shows students Henning Stock Photo: 52583329 - Alamy. <https://www.alamy.com/stock-photo-filean-archive-photo-dated-28-november-2012-shows-students-henning-52583329.html>
- 3. Dmitry Pereygin's profile photo. https://vk.com/photo107309507_210828219
- 4. Igor Averin's profile photo. https://vk.com/photo80557518_335822498
- 5. Nikolay Ionochkin's profile photo. https://vk.com/photo1719574_403905541
- 6. @jane.olivier.3's profile. <https://www.beautiful-instagram.club/share/Bm6jfuFBpv->
- 7. Maxim Ulybyshev's profile photo. https://vk.com/photo117966340_283332204

- 8. Ksenia Rusakova's profile photo. https://vk.com/photo138696560_456239249
- 9. Elena Subbotina's profile photo. https://vk.com/photo186047129_296691953
- 10. Sergey Egorov's profile photo. https://vk.com/photo28628958_308867798

The search results identify me



(FILE) An archive photo dated 28 November 2012 shows students (L-R) presenting three model vehicles in Hamburg, Germany. They are testing control circuits for their lunar rover Asimov. They are taking part in the Google Lunar X Prize for a privately-funded landing on the moon. Photo:



(FILE) An archive photo dated 28 November 2012 shows students (L-R) presenting a model vehicle in Hamburg, Germany. They are testing control circuits for their lunar rover Asimov. They are taking part in the Google Lunar X Prize for a privately-funded landing on the moon. Photo:

Clearview AI processes my biometric data without my consent
My data subject access request was answered incompletely



Der Hamburgische Beauftragte für Datenschutz und Informationsfreiheit

Elektronische Beschwerde: E-608-1174-267

Zeitpunkt der Einreichung: 18.02.2020 22:57 MEZ



Der Hamburgische Beauftragte für Datenschutz und Informationsfreiheit

Surprising response from the DPA

After examining your request, we have come to the conclusion that the **GDPR does not apply** and that the Hamburg Commissioner for Data Protection and Freedom of Information is therefore not competent.

GDPR does apply

- Clearview AI processes my biometric data without my explicit consent
- They offer their service to residents of the European Union
- European police forces use the search engine

[☐ Matthias Marx und Alan Dahi. Clearview AI und die DSGVO. Künstliche Intelligenz, Demokratie und Privatheit. Nomos, 2022](#)

Umstrittene Gesichtserkennung

Hamburgs Datenschützer leitet Prüfverfahren gegen Clearview ein

Ein 31-jähriger Mann aus Hamburg fand heraus, dass er in der Datenbank des Gesichtserkennungs-Start-ups Clearview AI steht. Er wehrte sich - und das hat nun Konsequenzen.

Von [Patrick Beuth](#)

25.03.2020, 15.17 Uhr

noyb

Clearview AI deemed illegal in the EU, but only partial deletion ordered

Jan 28, 2021

Clearview AI eventually deleted my photos

We know that Clearview AI has more photos of German residents



Der Hamburgische Beauftragte für Datenschutz und Informationsfreiheit

Surprising response from the DPA

The DPA has now completed its review and has come to the conclusion that **no further regulatory measures are appropriate**

Clearview AI eventually deleted my photos

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**Der Hamburgische Beauftragte für
Datenschutz und Informationsfreiheit**

Surprising response from the DPA

The DPA has now completed its review and has come to the conclusion that **no further regulatory measures are appropriate**

Facial recognition: Italian SA fines Clearview AI EUR 20 million

📅 10 March 2022 Italy

Clearview AI fined in UK for illegally storing facial images

🕒 23 May 2022

Hellenic DPA fines Clearview AI 20 million euros

📅 20 July 2022 Greece

The French SA fines Clearview AI EUR 20 million

📅 20 October 2022 France



PIMEYES

AI Act

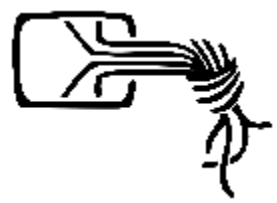


- Biometric mass-surveillance is not banned
- **Allows real-time facial recognition** in public spaces, for example to search for suspects and victims of crime
- **There is always someone wanted** nearby train stations – one wanted, all under surveillance
- German government does not want to exploit the opportunities



Conclusion

- Every publicly shared photo of a face ends up in a database
- GDPR works. Slowly
- **Clearview AI will not enter the European market**
- Enforcing GDPR is a challenge
- AI Act will not come to the rescue
- **Leaks of biometric data will feed illegal search engines**



Omnipresent Biometric Surveillance
OWASP Hamburg Stammtisch
Feb 7, 2024

Matthias Marx

