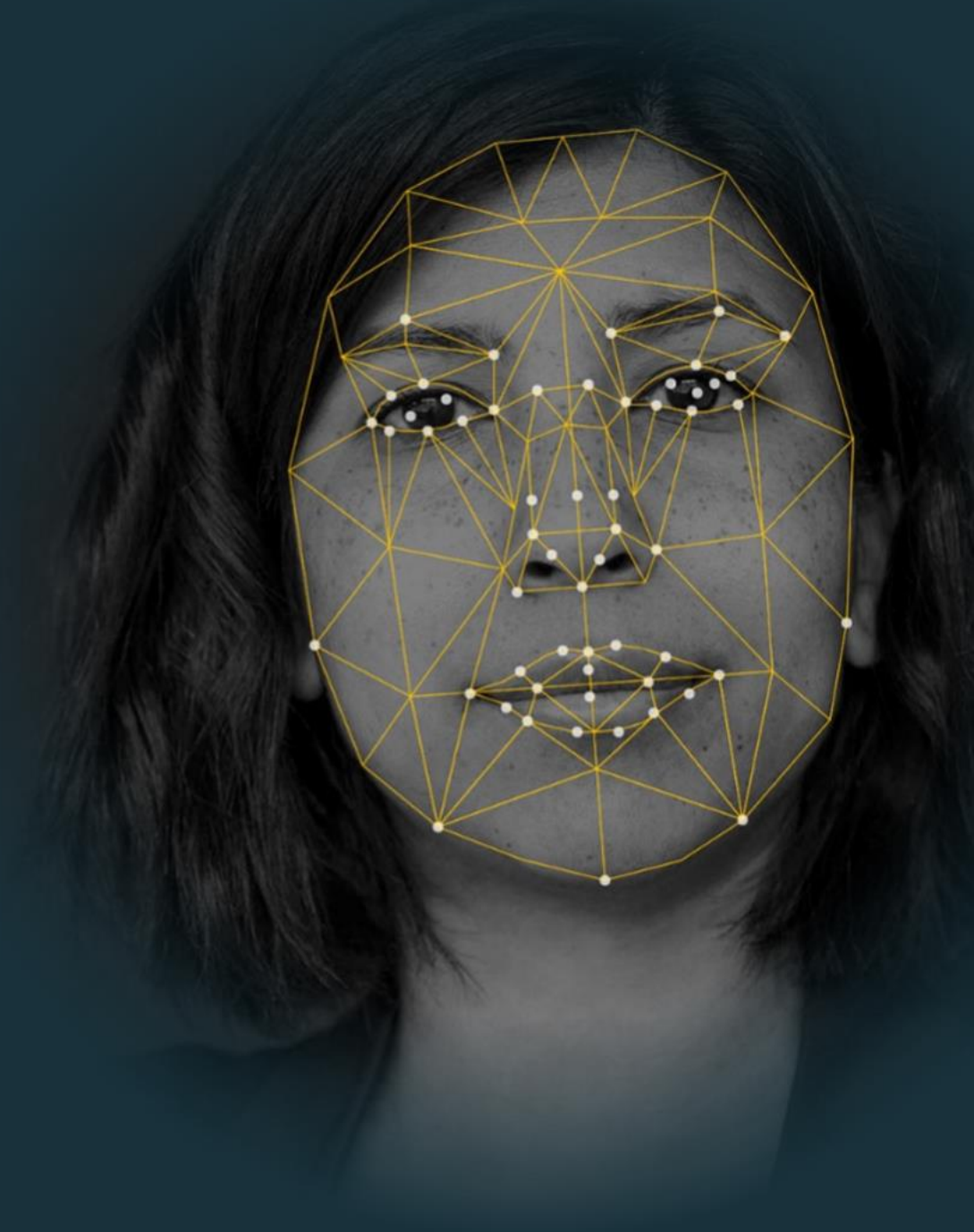




Responsible use of biometrics

Brage Strand
CEO, Mobai
NOBID, 28.01.2026



Founded in
2019 by 3 NTNU
professors and
their PHDs

On a mission to
rid the world of
fraud

eika.

SpareBank 1

tietoevry



NORWEGIAN BIOMETRICS LABORATORY

NTNU

Norwegian University of
Science and Technology

Founded in
2019 by 3 NTNU
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NORWEGIAN BIOMETRICS LABORATORY

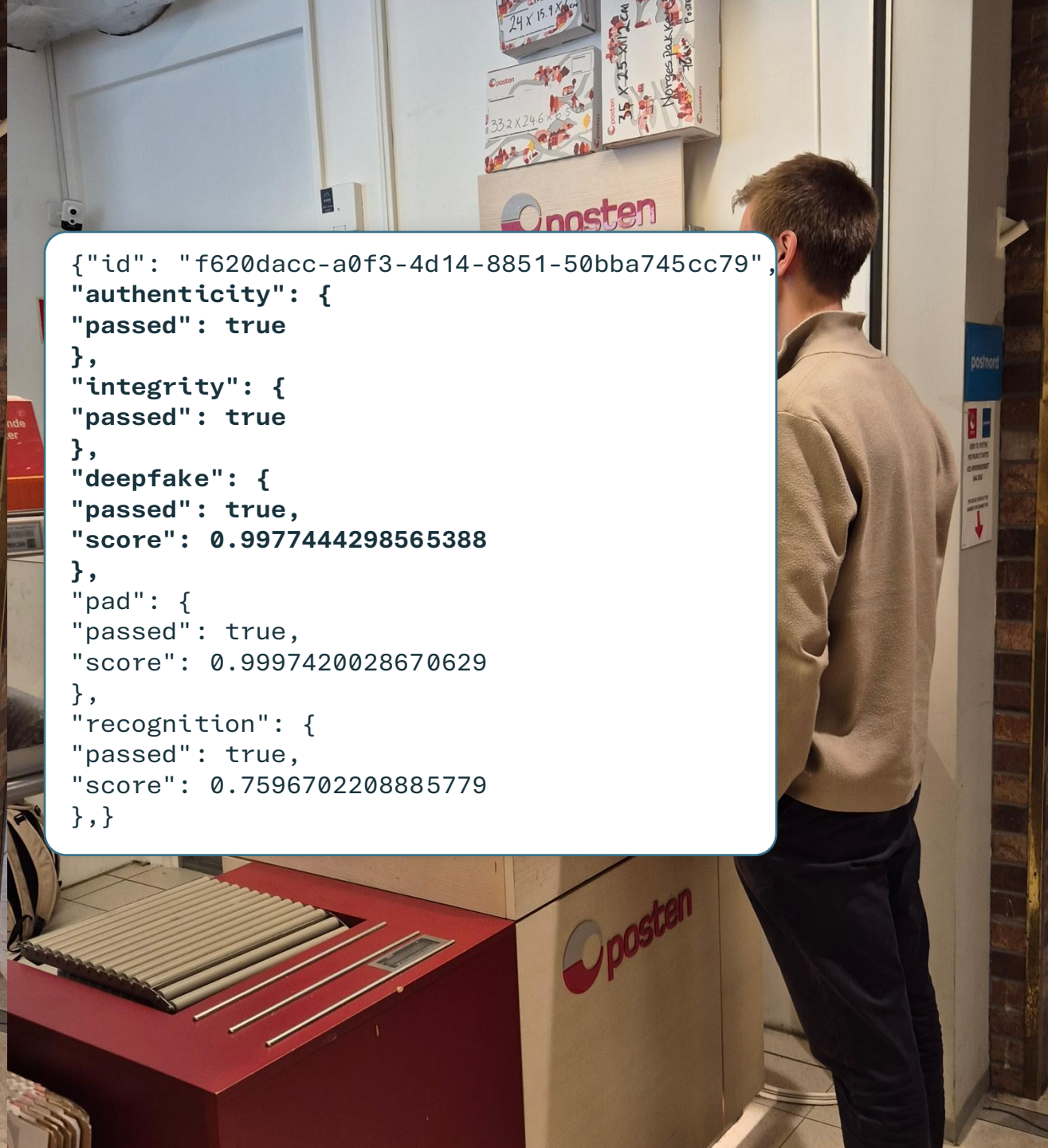
NTNU

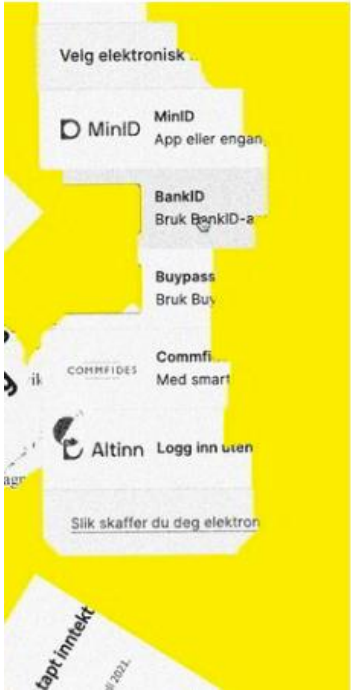
Norwegian University of
Science and Technology





```
{
  "id": "f620dacc-a0f3-4d14-8851-50bba745cc79",
  "authenticity": {
    "passed": true
  },
  "integrity": {
    "passed": true
  },
  "deepfake": {
    "passed": true,
    "score": 0.9977444298565388
  },
  "pad": {
    "passed": true,
    "score": 0.9997420028670629
  },
  "recognition": {
    "passed": true,
    "score": 0.7596702208885779
  },
}
```





DN Article:

**“This is how
organized crime
steals billions
from the state”**

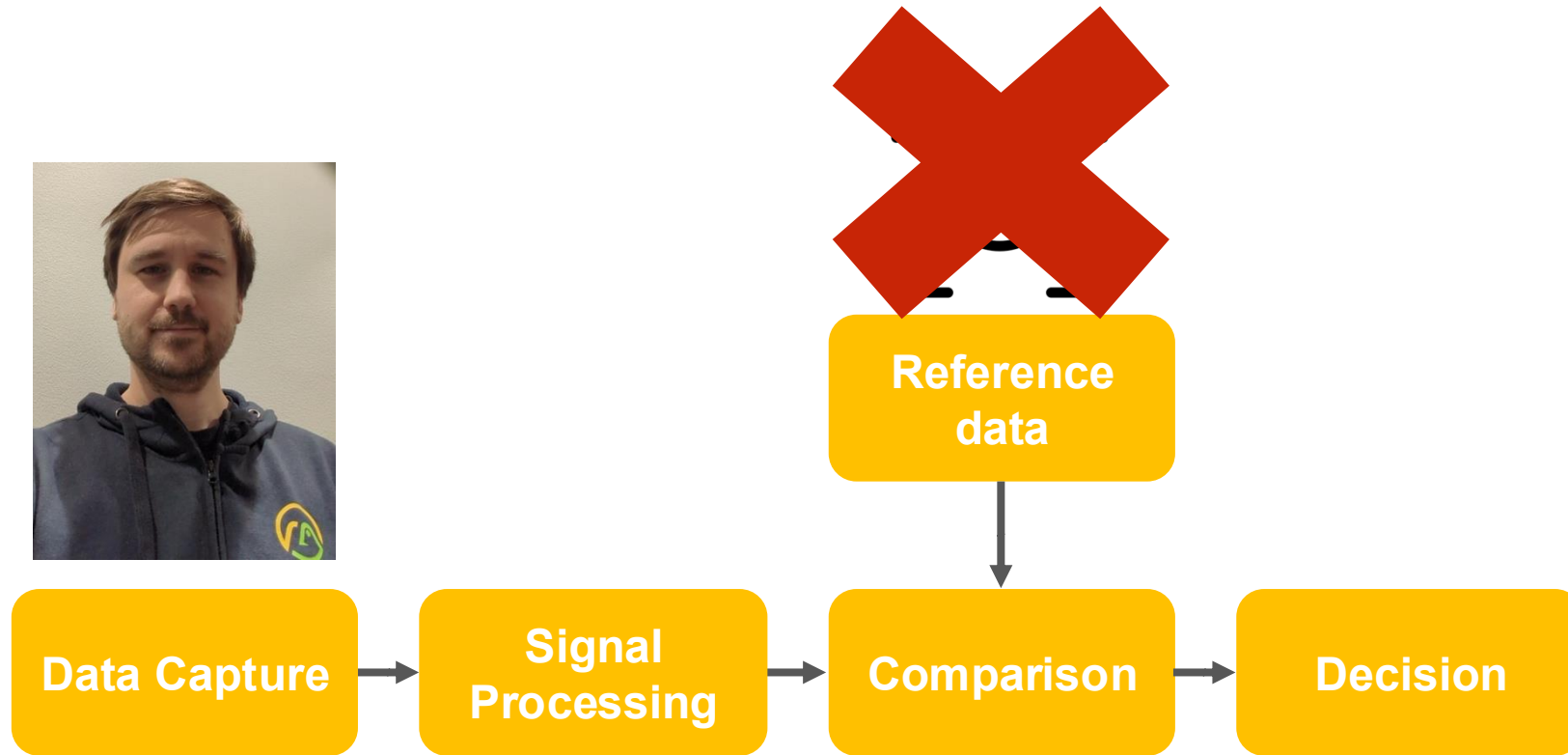
**“90 phones with 90 identities
and 90 BankIDs”**

- Norwegian Police, DN articles



**“I have a persons with a BankID
that can be the scapegoat”**

- Organized crime, Sorte Svane series





**Reference
data**

Data Capture

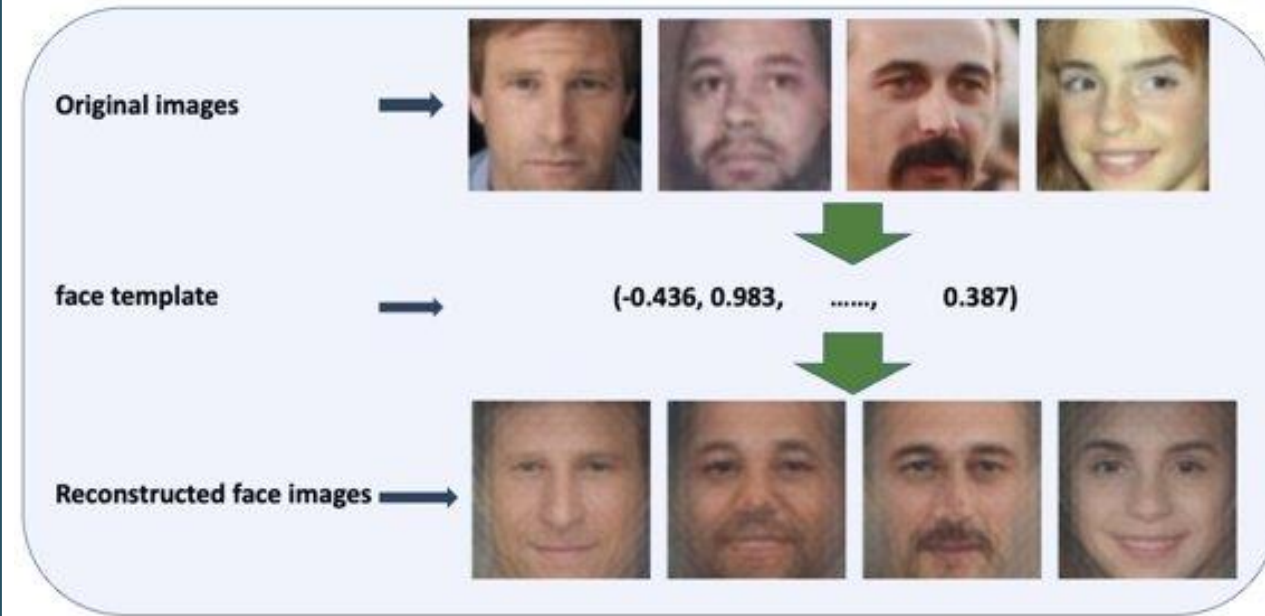
**Signal
Processing**

Comparison

Decision

isn't using biometrics scary?
A big risk? Or how to ensure
with GDPR compliance?

You can't
reset your
face!

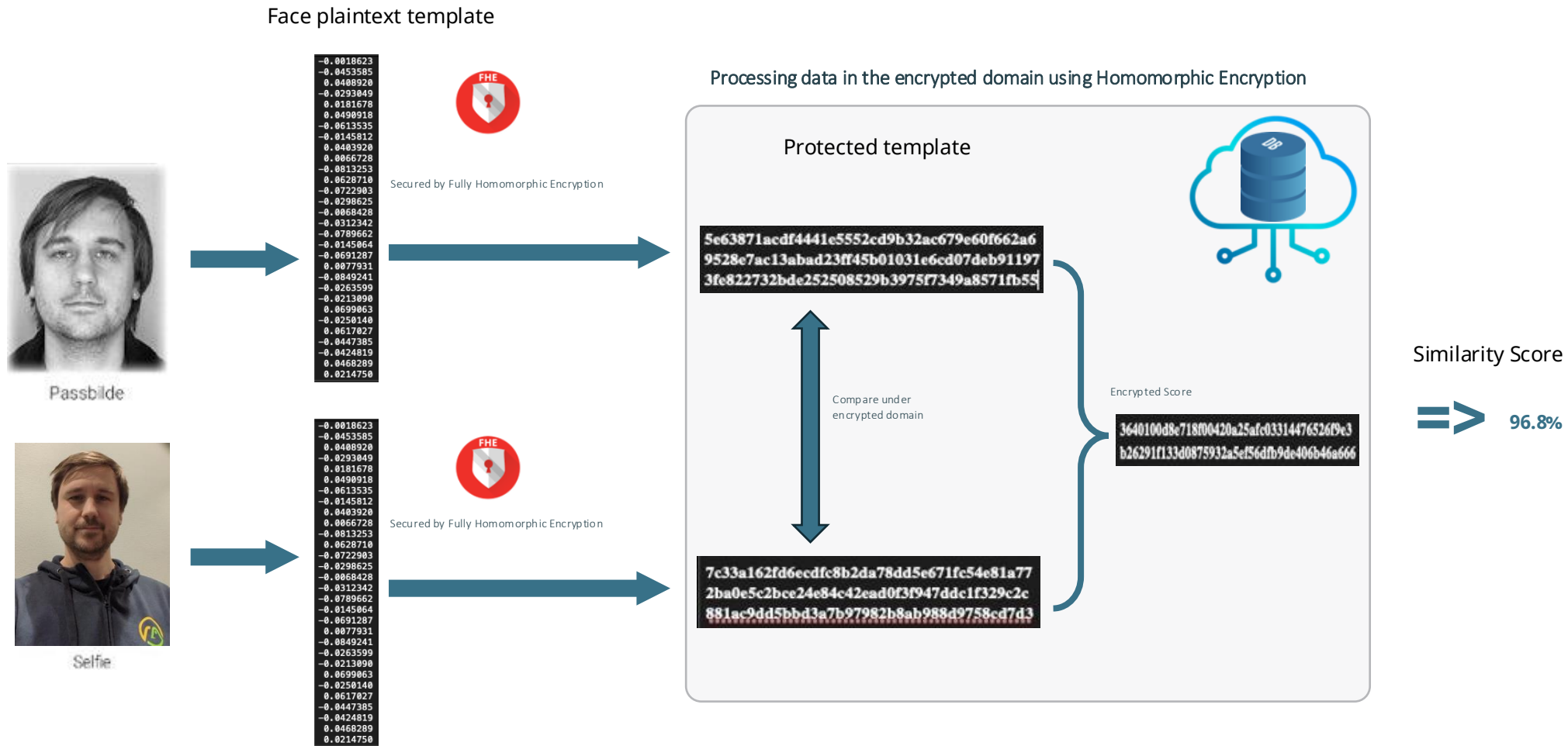


The Sandbox project on 'Securing Digital Identities' with responsible biometrics



SALT (Datatilsynet et al.),
exit report: Securing
Digital Identities

Face verification in the encrypted domain with fully homomorphic encryption



You can, actually, reset your face

Face plaintext template



Passbild

-0.0018623
 -0.0453585
 0.0408920
 -0.0293049
 0.0181678
 0.0490918
 -0.0613535
 -0.0145812
 0.0403920
 0.0066728
 -0.0813253
 0.0628710
 -0.0722903
 -0.0298625
 -0.0068428
 -0.0312342
 -0.0789662
 -0.0145064
 -0.0691287
 0.0077931
 -0.0849241
 -0.0263599
 -0.0213090
 0.0699063
 -0.0250140
 0.0617027
 -0.0447385
 -0.0424819
 0.0468289
 0.0214750



Secured by Fully Homomorphic Encryption



Encrypted with a key_1

Protected template 1

5e63871acdf4441e5552cd9b32ac679e60f662a6
 9528e7ac13abad23ff45b01031e6cd07deb91197
 3fe822732bde252508529b3975f7349a8571fb55



Bank 1



Secured by Fully Homomorphic Encryption



Encrypted with a key_2

Protected template 2

7c33a162fd6ecdfc8b2da78dd5e671fc54e81a77
 2ba0e5c2bce24e84c42ead0f3f947ddc1f329c2c
 881ac9dd5bbd3a7b97982b8ab988d9758cd7d3



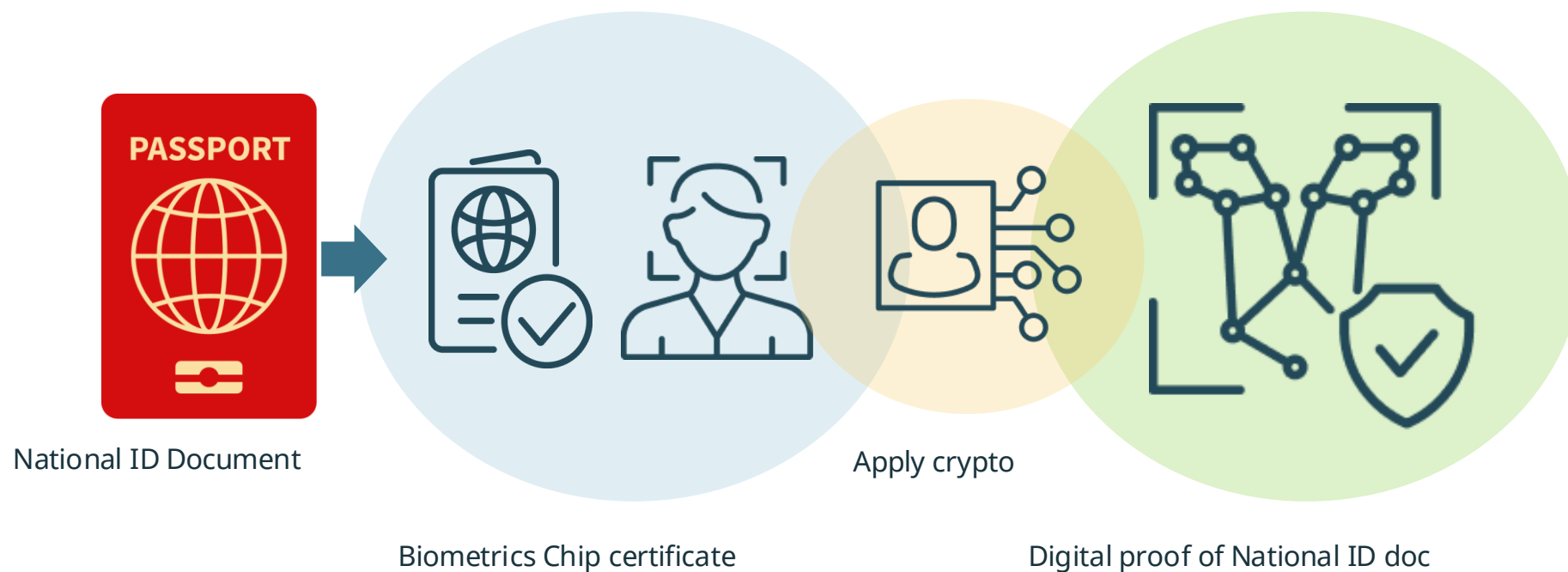
Bank 2



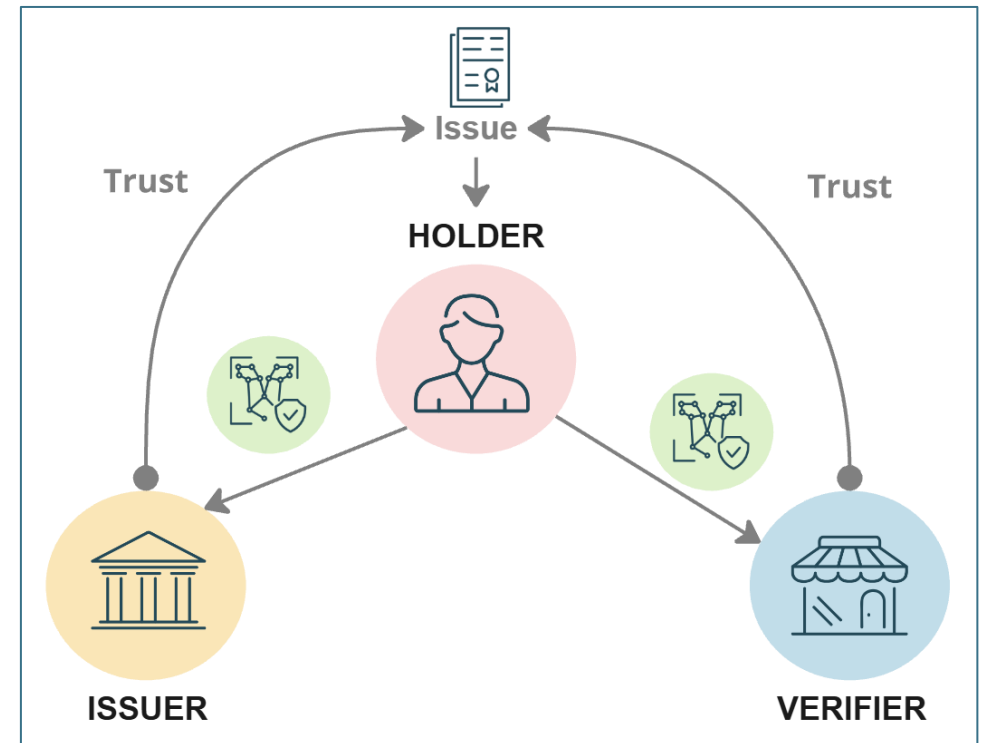
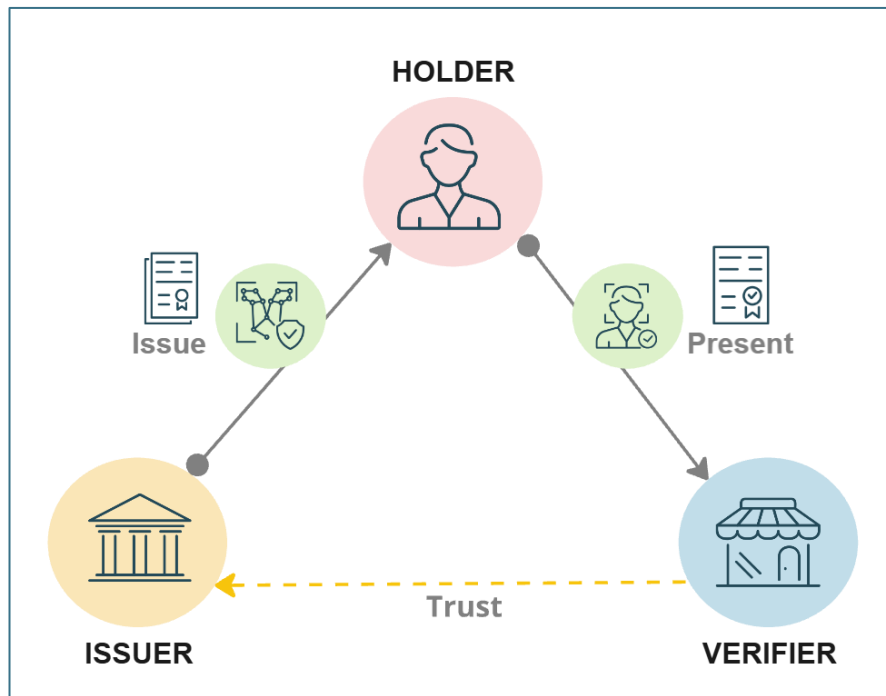



- “when processing facial images, as well as biometric templates, the data controller needs to **ensure appropriate safeguards.**”
- “there is no **absolute ban** on central storage of biometric data ”
- “Mobai's solution **might enable the implementation of central biometric data storage** and processing in cases where it was previously not considered secure enough.”

Safely use, store and share biometrics




Safely use, store and share biometrics



 Safari File Edit View History Bookmarks Develop Window Help

localhost

 Wallet Demo: Biometric Auth for Interviews

Applicant 007: Jakob Ildstad

Pending Verification

Application Letter

Dear Hiring Manager,

I am writing to express my strong interest in the Office Clown position at Mobai. With a Master's degree in Cybernetics and Robotics from NTNU, I bring a solid foundation in pranks and laughter.

During my studies, I specialized in computer vision and neural networks, achieving a GPA of 9.99. I am particularly excited about Mobai's work in biometric identity verification and believe my background in secure authentication systems would be a valuable addition to your team.

I look forward to the opportunity to discuss how I can contribute to Mobai's mission of making digital identity more secure and user-friendly.

Best regards,
Jakob Ildstad

Request University Diploma

Verify applicant's degree with biometric authentication

► Debug Log

degree in Cybernetics and Robotics from NTNU, I bring a solid foundation in pranks and laughter.

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I look forward to the opportunity to discuss how I can contribute to Mobai's mission of making digital identity more secure and user-friendly.

Best regards,
Jakob Ildstad

University Diploma Received

Authenticate with Biometrics

Given Name

Jakob

Family Name

Date Of Birth

University

Degree

Field Of Study

Cybernetics

Graduation Date

Average Grade

9.99

Biometric Token

ce46cf3c-3718-4e27-9c8e-141e889a576f

Show verification steps

Debug Log

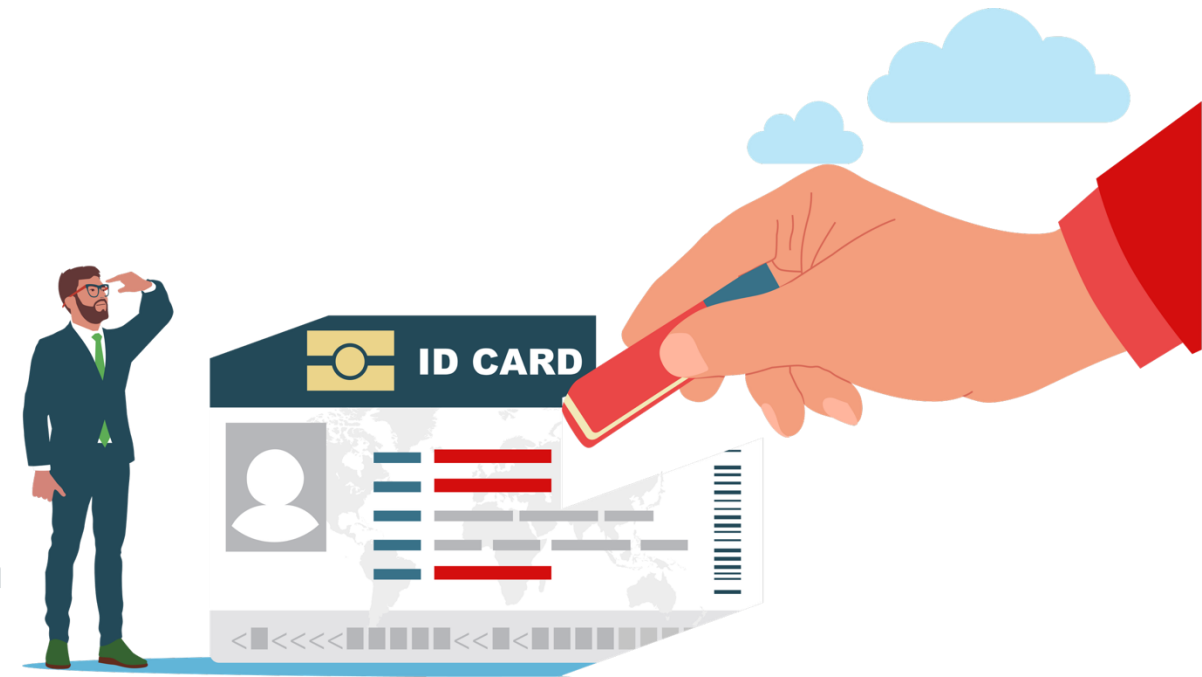
In a physical world we are in control

- Passport & National ID-card
 - Biometrics: Issued by authorities
 - Decentralized storage
 - User in control of ID-document



User-control lost after sharing online

- Physical environments
 - Context is understood
- Online environments
 - No user control of shared passport data
 - Trust-dependency to whom you share with





Enroll Passenger

Passport Number

Take Selfie

Enroll

 Processing Details



Passenger Check-In

Passport Number



Select Airline



Take Selfie

Start Encrypted Check-In

 Processing Details

Passenger Check-In

C45782931

Lufthansa

Take Selfie



Start Encrypted Check-In

Encrypted decision sent to your Airline.

Processing Details

Protected Probe Size: **64.00 KB**
Encrypted Decision Size: **2.19 MB**

EU Digital Omnibus with suggested GDPR amendment to Article 9

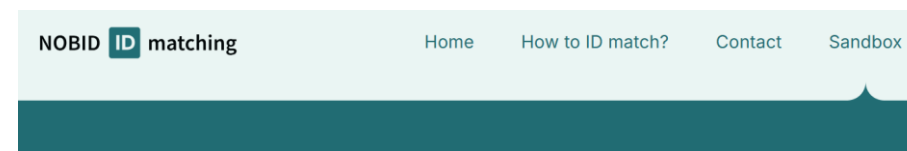
(lawful processing of special category of data)

(l) processing of biometric data is necessary for the purpose of confirming the identity of a data subject (verification), where the biometric data or the means needed for the verification is under the sole control of the data subject.'

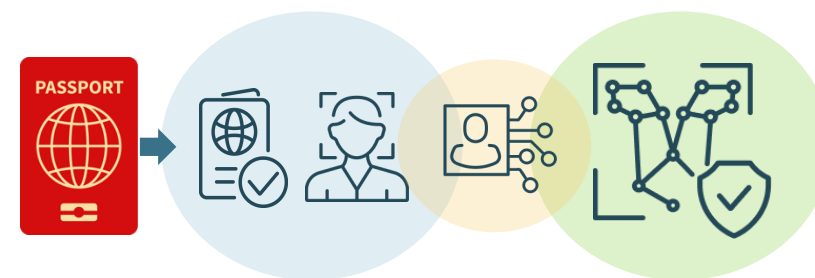
On going R&D project on leveraging privacy-secured biometric ID proofs



- Collaboration project with Simula Research Institute, University of Leuven, Mobai & Partisia
- End users Digdir (NOBID project), UDI (Immigration), & Buypass (eID)



ID matching sandbox





mobai

Multimodal
Biometric
Authentication

www.mobai.bio

Brage Strand
CEO Mobai
Tel +47.404.90.411
brage@mobai.bio

