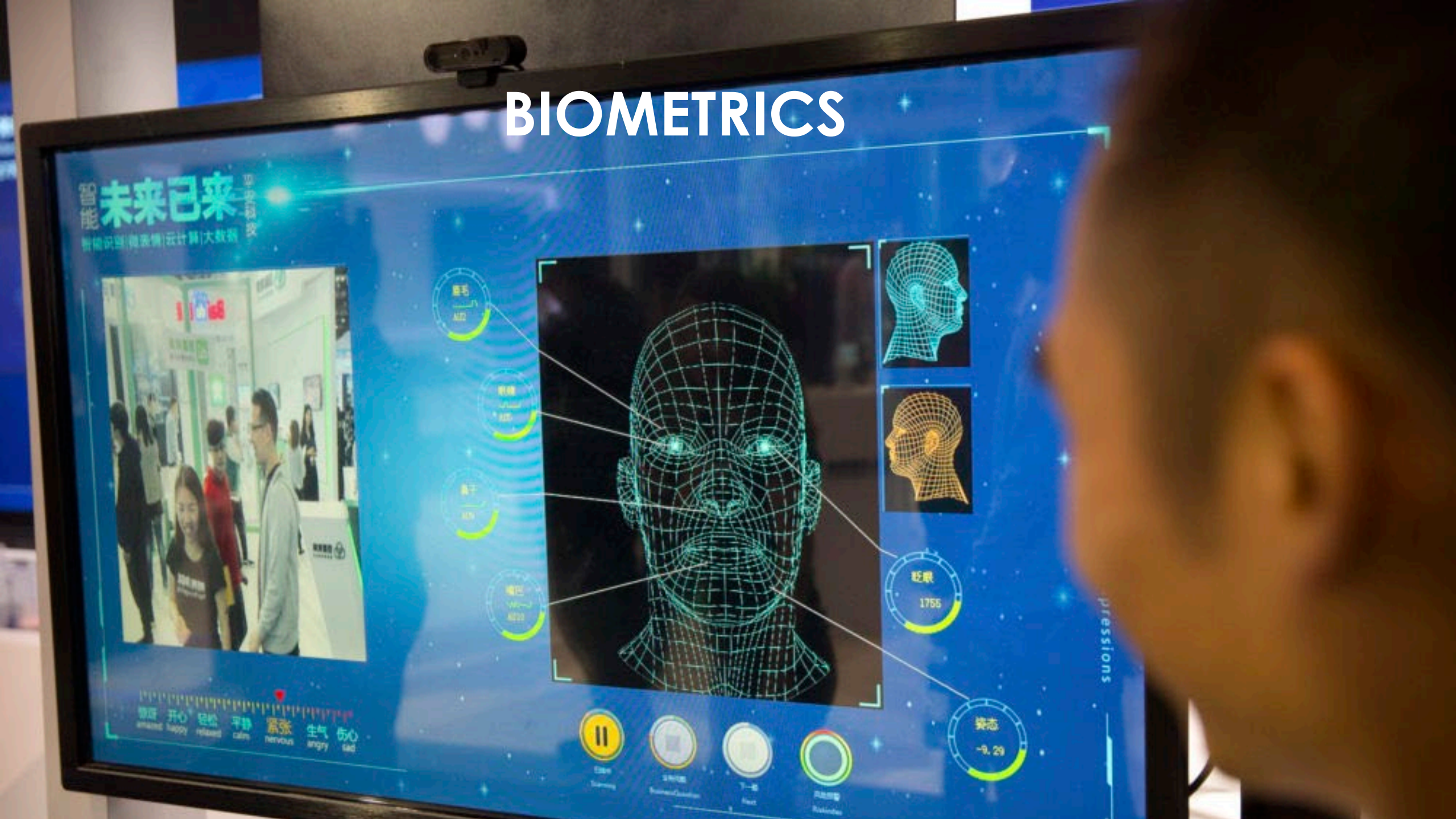
JURA

PROPOSALS FOR VISUAL AND ELECTRONIC SECURITY FEATURES FOR THE PERSONALIZATION OF PASSPORTS AND ID CARDS

BIOMETRICS



But Jura is still showing fairytales about printed travel documents.

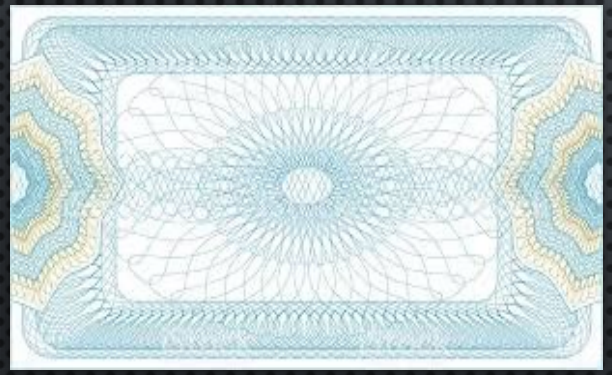
Whatever is the trend, printed physical travel documents, specially passports, cannot be ignored.

BUT:

Must be solutions for extreme situations, when the chip cannot be verified with:

There are many sophisticated security features in the passports. But during primary passport control there is no time or knowledge to check these in foreign passports:

Security Design



Laminate

UV printed motive

Thread

The primary check is practically limited to compare data stored in the chip versus printed data.
But:

The inlay in the passport is often damaged, sometimes intentionally.

As per ICAO the passport remains valid with damaged chip.

must always see the face

If the chip does not function the control is limited to check the face of the passenger and the portrait in his/her passport:

Faces change from document issuance to actual document control.

2011

2021

2011

2021

After comparing the face to the passport photo visually, can the officer be sure that the personal data are correct?

PASSPORT

Type / Type
P

Country code / Code du pays
JUR

Passport no / no du passeport
JU185145 ?

Surname / Nom
ADDAMS ?

Given names / Prenoms
VERONICA ?

Nationality / Nationalite
Jurian

Date of birth / Date de naissance
1998.06.18 ?

Sex / Sexe
F

Place of birth / Lieu de naissance
Buda

Date of issue / Date de deliverance
2020.01.10 ?

Authority / Autorite
Immigration Office, Jurio

Date of expiry / Date d'expiration
2030.01.10

Signature / Sign

IPI: 235-0

P<JURADDAMS<<VERONICA<<<<<<<<<<<<<<<<<<<<<<<<

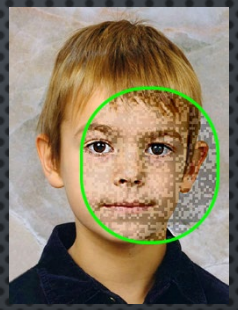
JU185145<9JUR9806180F3001101<<<<<<<<<<<<<<<04

As per ICAO Doc 9303

Forgery is mainly the alteration of a genuine document.
The prime target for such alteration is the biographical details of the genuine holder, particularly the portrait:

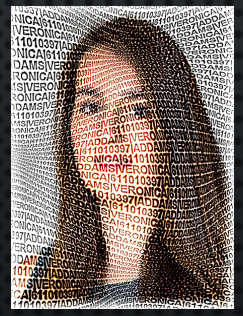
As per ICAO Doc 9303:
Protection against photo substitution and alteration of data in a passport can be achieved with

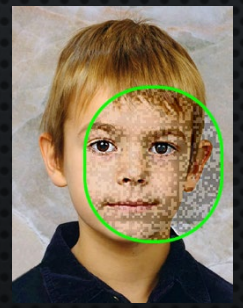
(A) Steganographic images:



(B) Additional portrait(s) of holder:

(C) Machine-verifiable features:





Answers No.1 of Jura for Steganographic image:

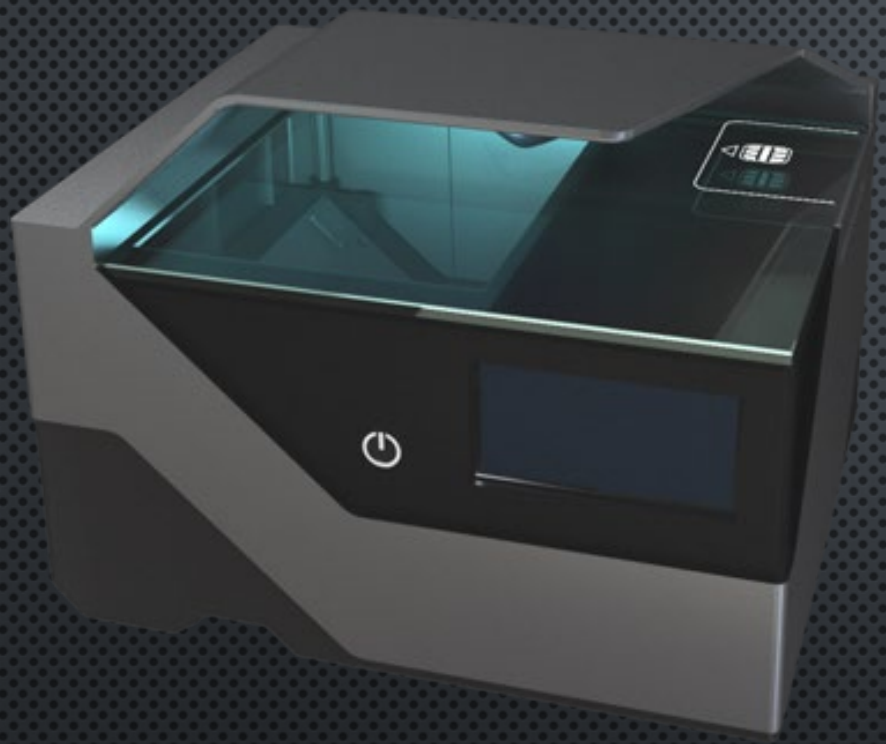
IPI for the data-page
Personal and document data is stored hiddenly in the Portrait.

Hidden data enables the verification of personal and document data.

Can be inkjet-printed or engraved.

Globally proven and reputed feature.

Verification of IPI:



Answer No.2 of Jura for Steganographic image:

ICI for any page printed with visible or invisible UV ink.

Any motive can be hidden: numbers, barcodes, texts, images.

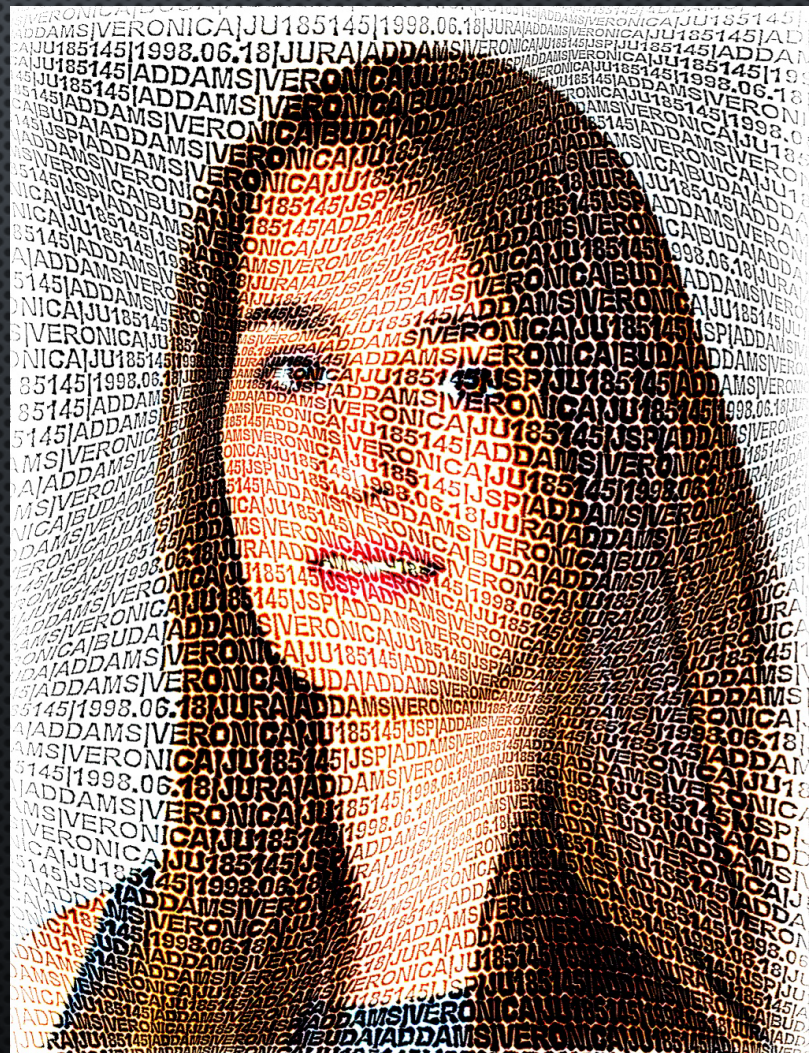
A simple plastic device decodes the embedded information.

ICI provides very high security and versatility at very low implementation costs.

Answer No.1 of Jura for additional portrait:

LetterScreen, the ideal "ghost image"

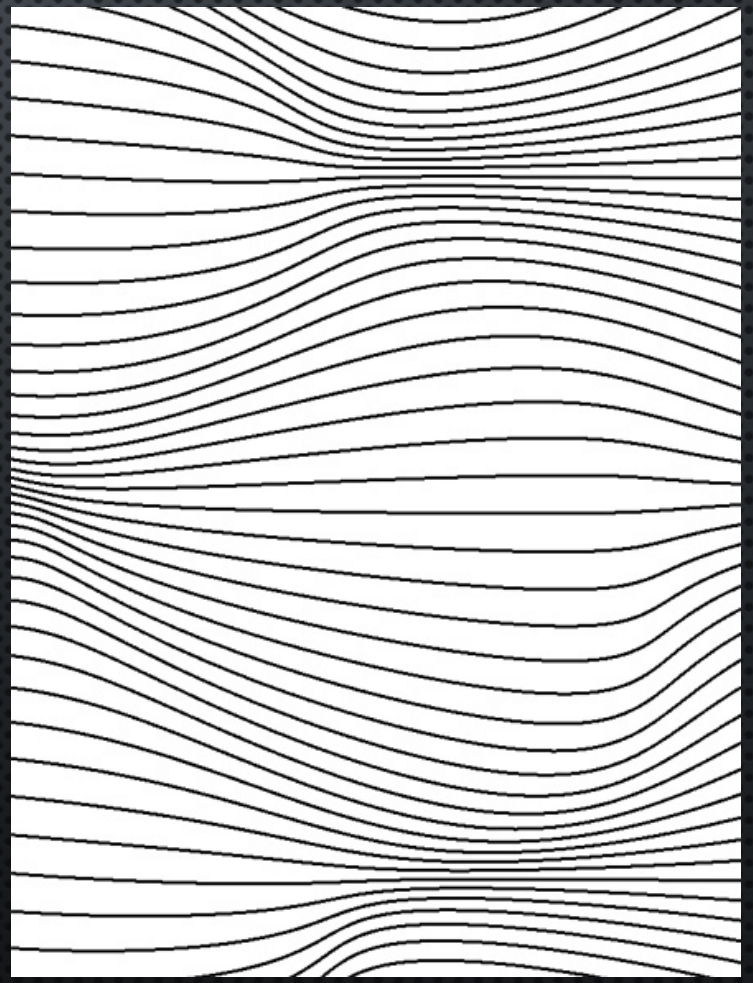
Inkjet-printed or Laser-engraved.
Text consists of personal and document data.
Text is composed of micro letters.
Density of each font is different.
Text is arranged by a unique wave pattern.
Multi-Level Security.
Machine-Verifiable.



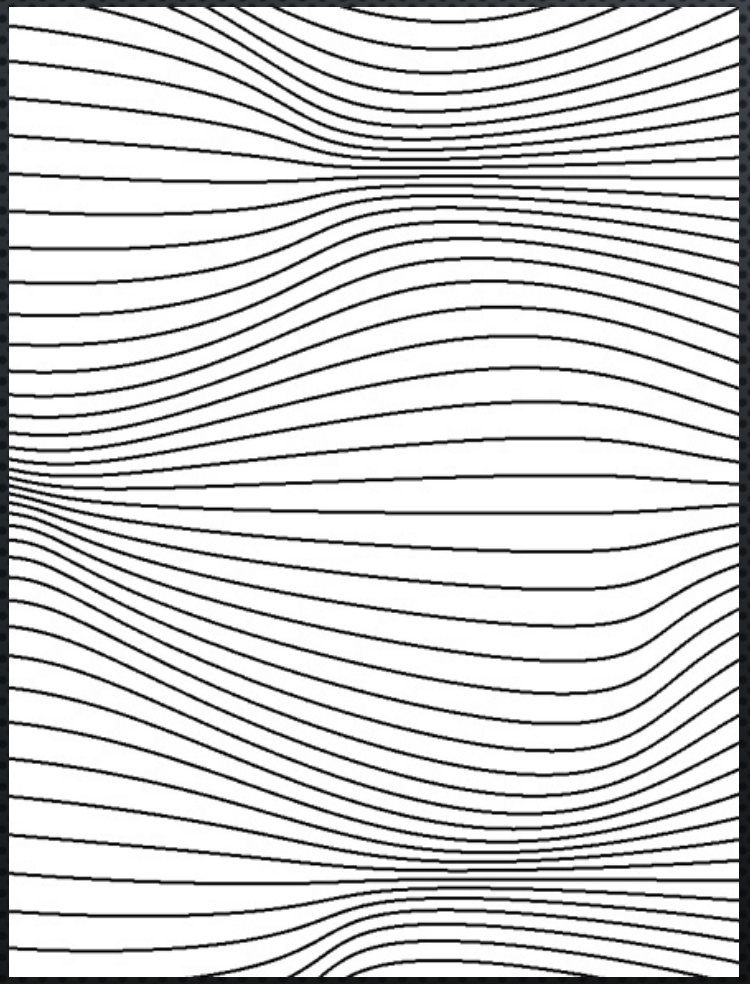
Step 1:
From the MRZ data the Jura SW generates a personalized wave structure:

P<JURADDAMS<<VERONICA<<<<<<<<<<<<<<<<<<<<<<<<

6110103974JUR9806180F3001318<<<<<<<<<<<<<<<08



Step 2:
SW generates a full-size redundant text image from the personal data along the personalized wave structure



ADDAMS
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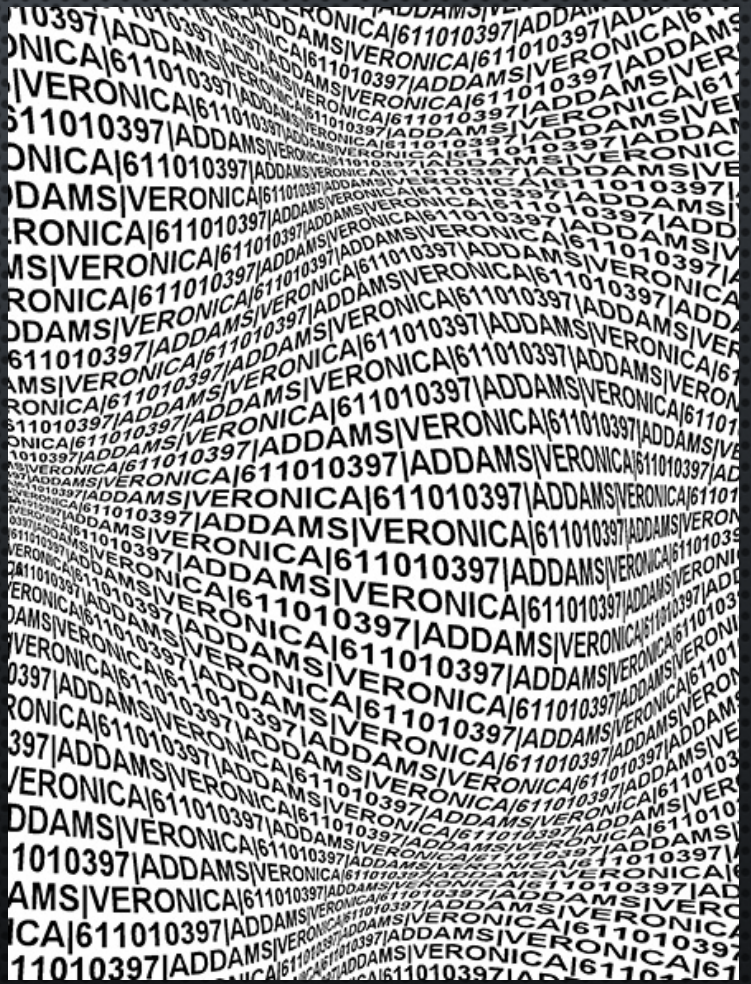
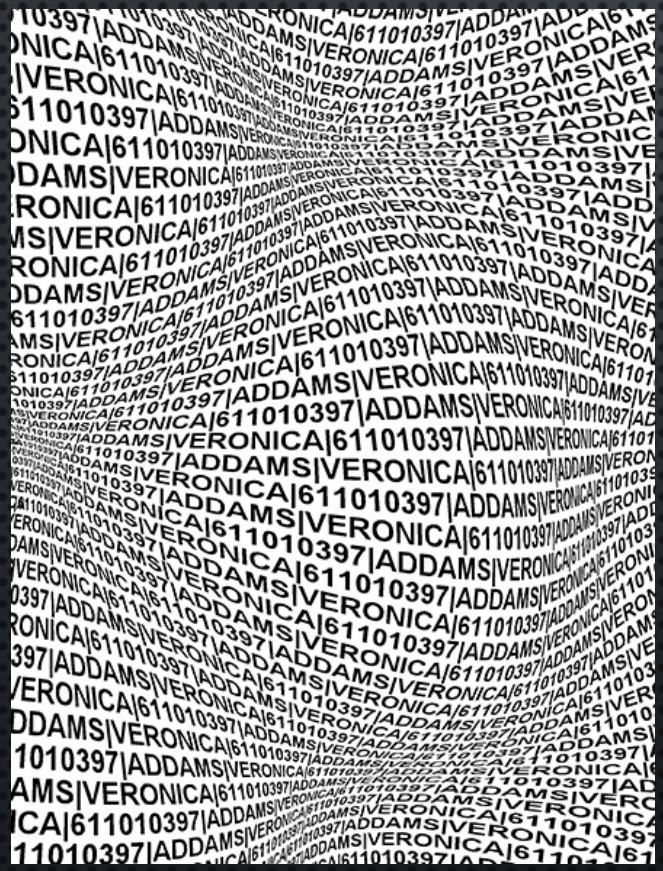
F
1998. 06. 18.



Step 3:
SW combines the photo with the text-image



+

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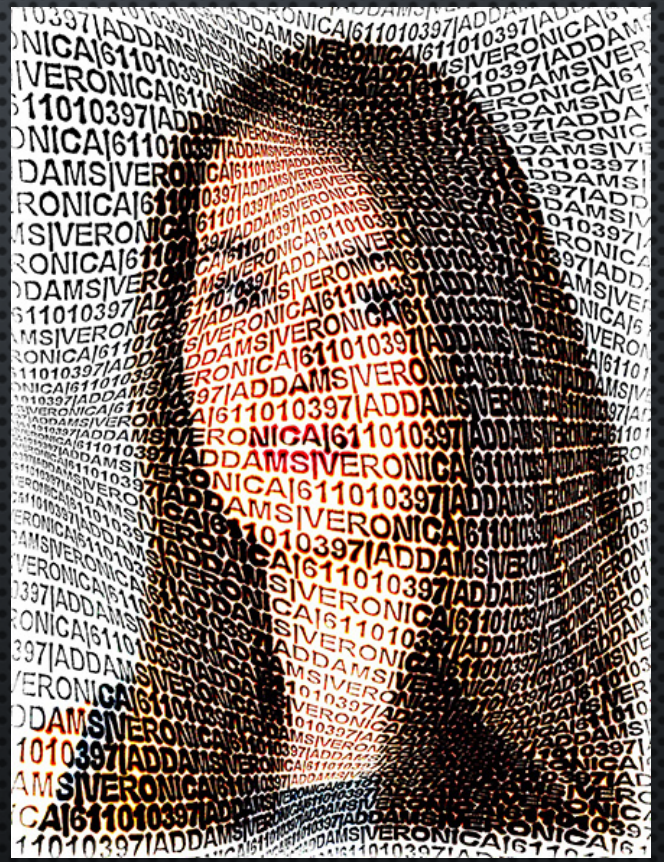
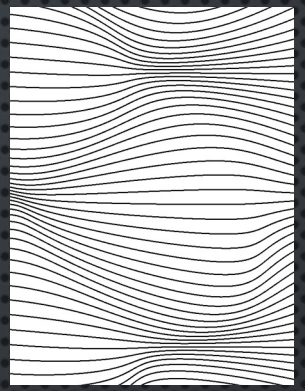


Multi-Level Security

Level-1: for everybody

Level-2: machine verification with document scanner:

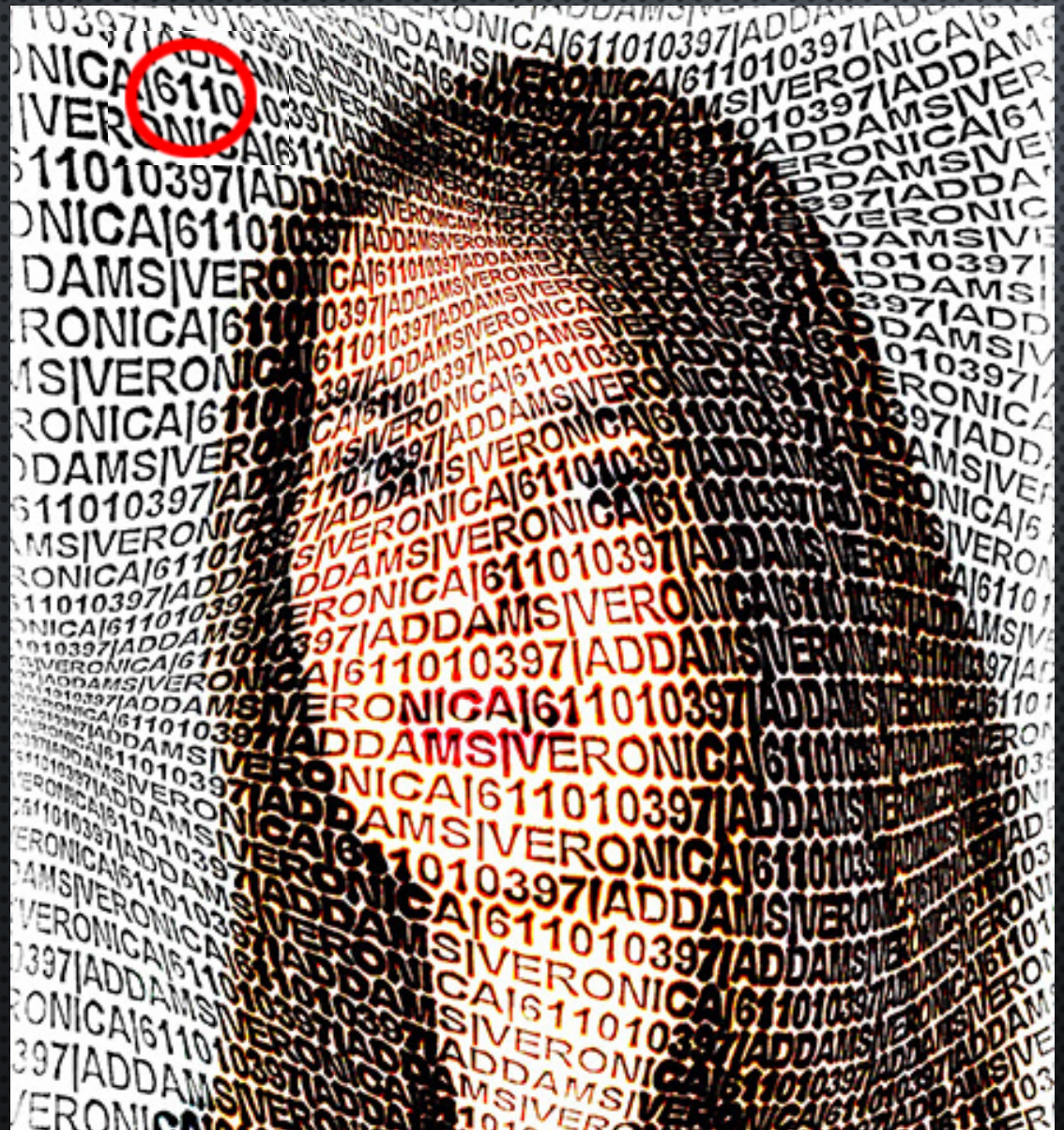
Application recalculates the wave pattern from same MRZ:

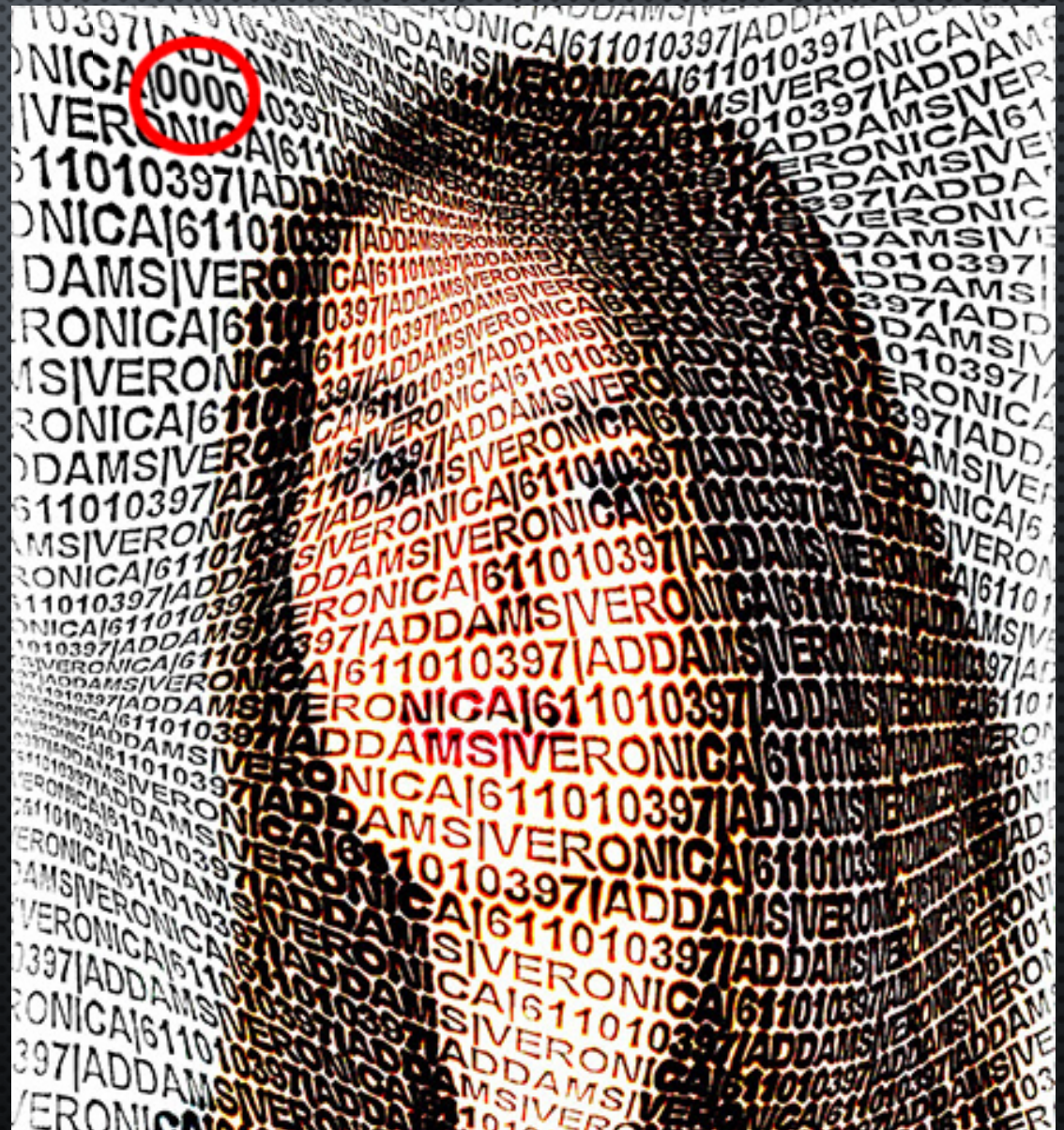


Analyzes waves in LetterScreen

Compares the two wave pattern and shows:

Level-3: Security Markers (deliberate mistakes) known only by forensic experts





Answer No.2 of Jura for additional portrait:

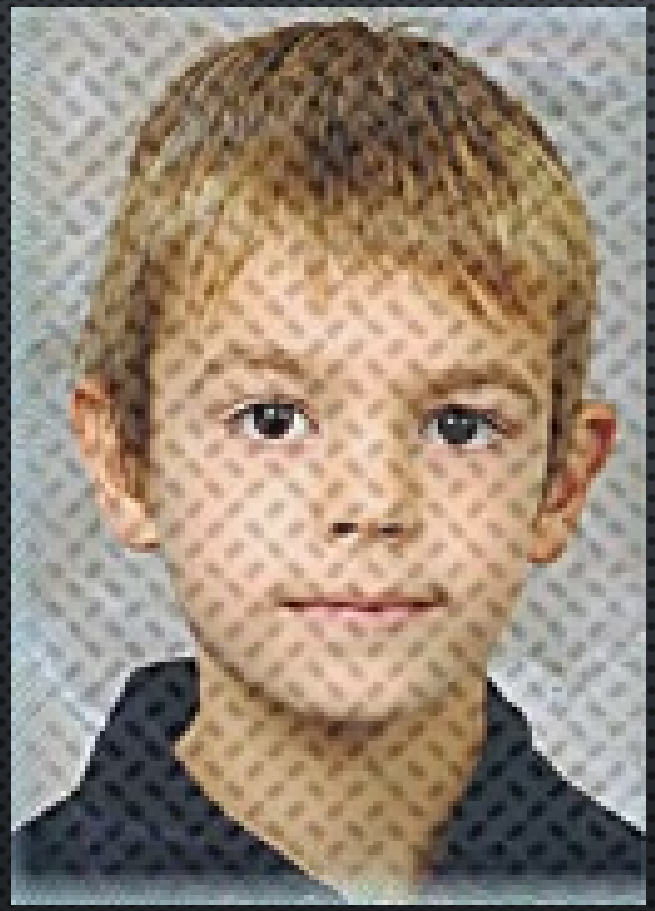
SmartIPI, a new additional portrait

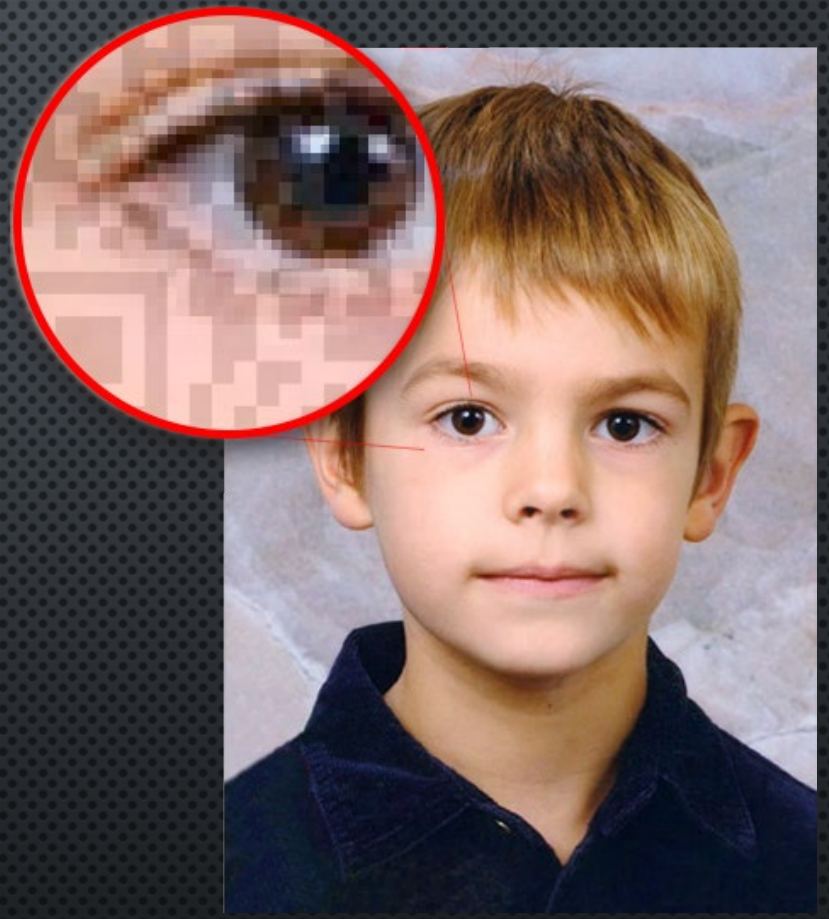
Issuer encrypts the data to
a hidden text

```
10100010100011011001011101111000100010010011 10
```

SW converts the encrypted data to a special hidden image and inserts it to the portrait for printing or laser engraving

SmartIPI offers enhanced security

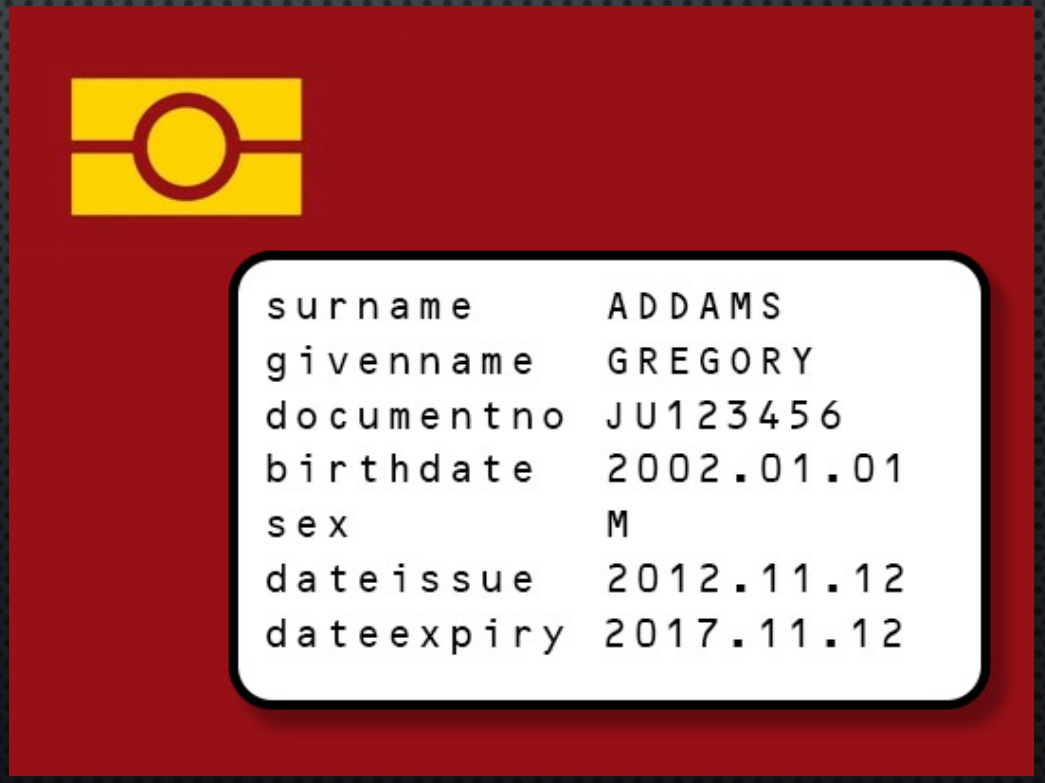




Lens or lupe do not show the data, only small encrypted motives.

Verification of SmartIPI by an app in the document reader:

Compares data in MRZ and/or in the chip with the hidden data.
Screen shows if hidden-data is correct.
SW warns if document is manipulated.



SmartIPI hides and encrypts personal data in the portrait.

SmartIPI optimized for smartphone verification, can be machine verified. Optimal to protect additional portrait on passports

Verification of SmartIPI:

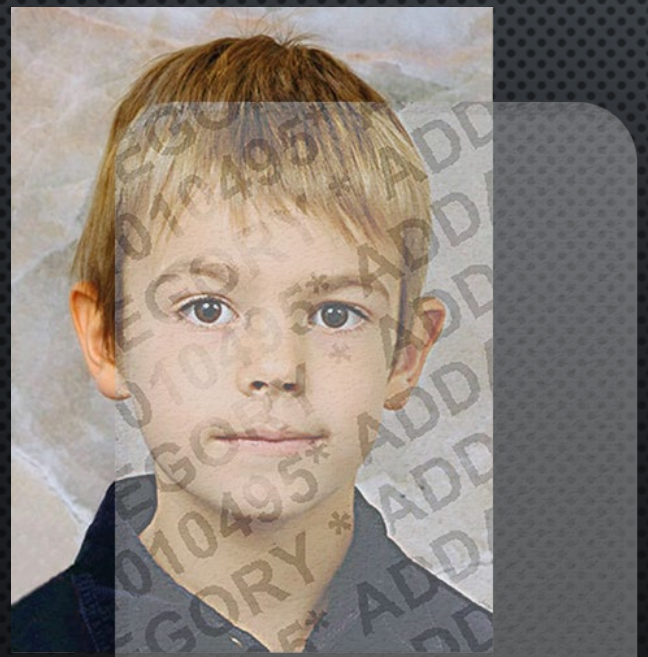
- only with app in electronic devices,
- possible only with the authorization of the document issuer.

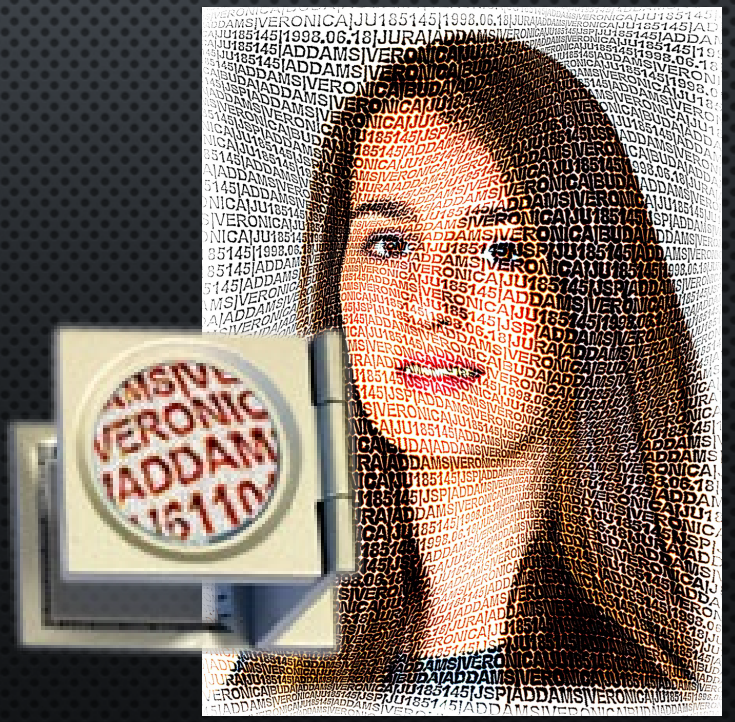
The answer of Jura for machine-verifiable features:

Proven and reputed technologies to protect

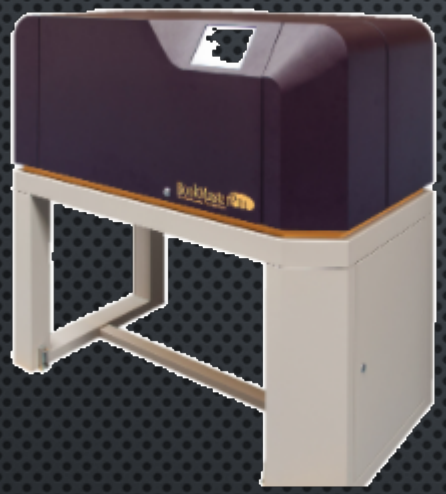
- the personal data by the portrait
- and the portrait by the personal data

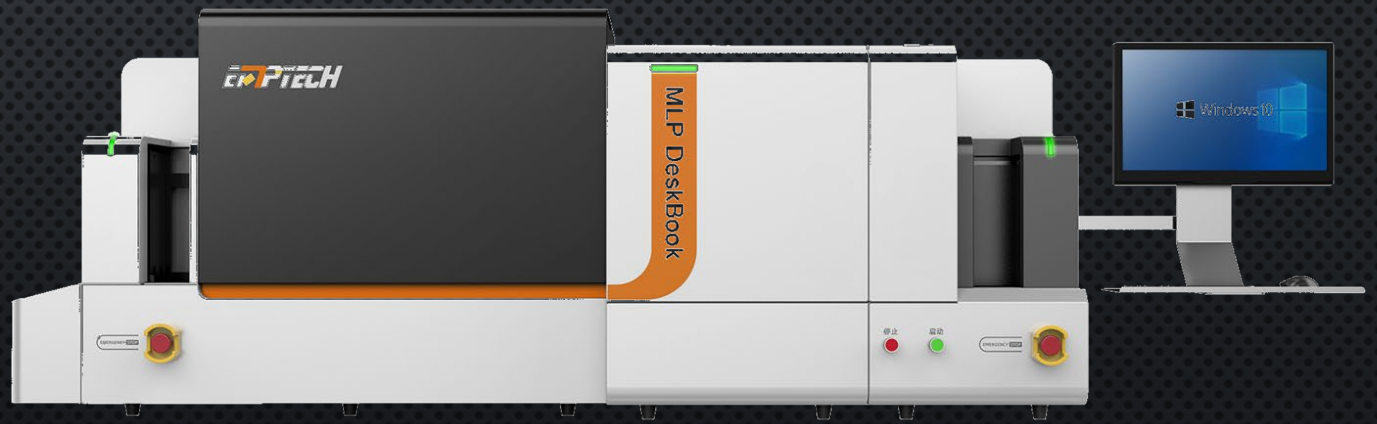
where there is no document reader and no AFIS/ABIS,
or when the document has damaged chip.





All the shown features are compatible with all perso *systems:*





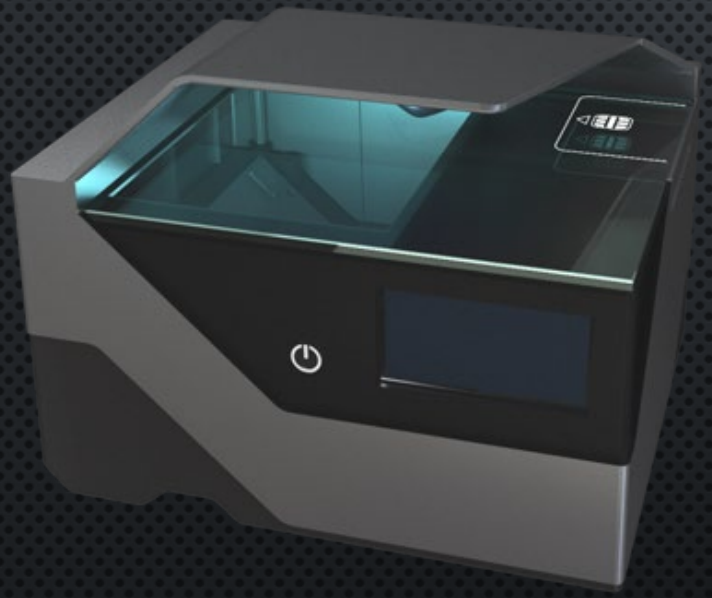
Jura features meet all global tendencies:

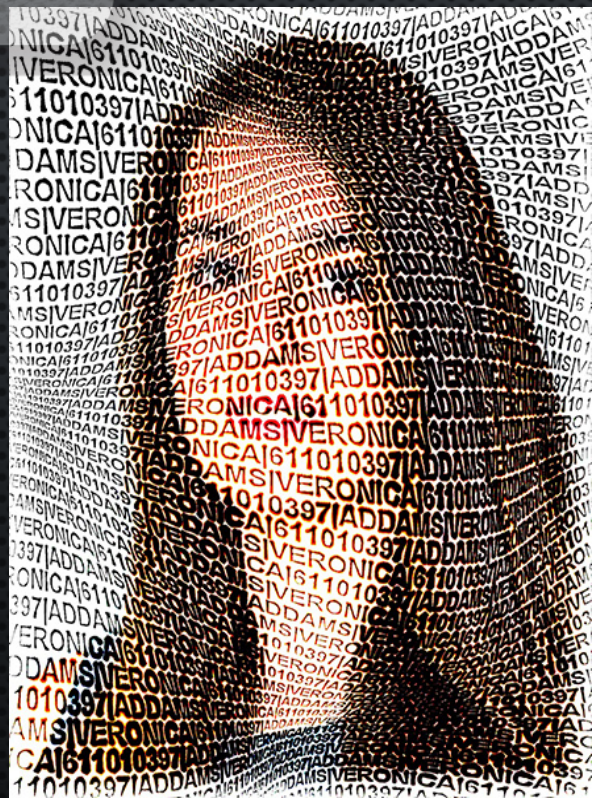
1. Multi data-page on passports

2. Multi-portrait on passports

Jura features meet all global tendencies:

Features for interoperability





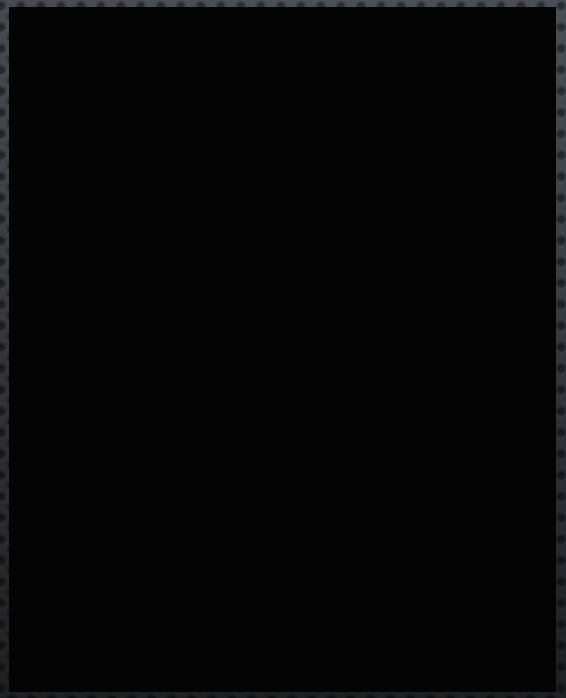
Jura features meet all global tendencies:

Features only for forensic verification

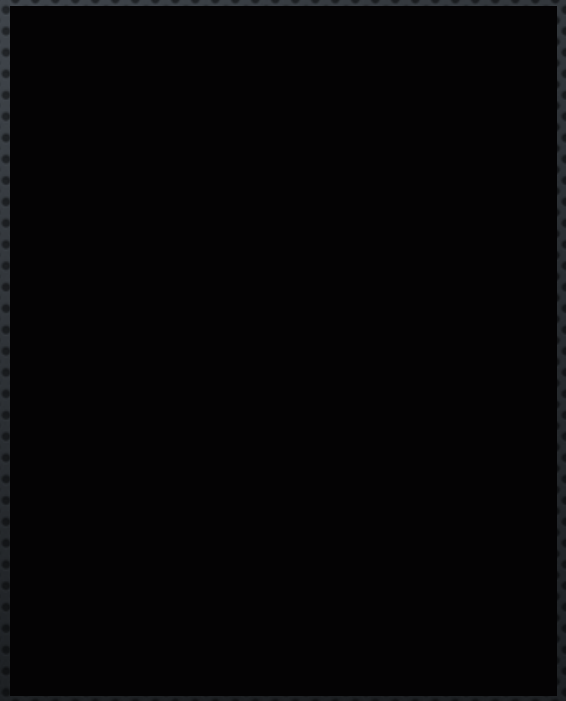
Conclusion:

IPI

LetterScreen

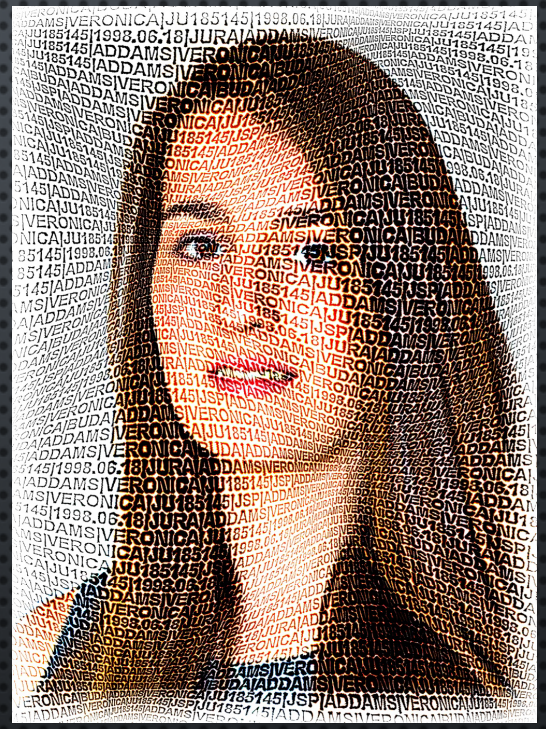


SmartIPI



Strong combination to enhance security

The shown features are all software based = affordable



Several dozens of countries use them to facilitate the document control.

Configuration 1

IPI on Primary Portrait on PC data page: multiple verification, interoperable

+

LetterScreen also on the PC data-page: multi-level verification

Configuration 2

IPI on Primary Portrait on data-page: multiple verification, interoperable

+

LetterScreen on the first paper-page: multi-level verification

Configuration 3

IPI on Primary Portrait:
multiple verification, interoperable

+

SmartIPI on the first paper-page:
reserved for internal verification

+

LetterScreen also on the PC data-page:
multi-level verification

Configuration 4

IPI on Primary Portrait:
multiple verification, interoperable

+

SmartIPI on the first paper-page:
reserved for internal verification

+

LetterScreen also on the first paper-page:
multi-level verification

The Jura features are applied in 40+ countries on 60+ documents including on 2nd, 3rd and 4th generation documents

Detailed list is confidental, shall be partially disclosed on request

REPUBLIKA NG PILIPINAS | REPUBLIC OF THE PHILIPPINES
PASAPORTE/
PASSPORT
P
PHL
P9148737A
VERASTIGUE
SHERAZADE
SUSULAN
02 JUN 1985
FILIPINO
F
SIASI SULU
16 OCT 2018
15 OCT 2028
DFA DAVAO
INSTITUTO NACIONAL ELECTORAL
MÉXICO
CREDENCIAL PARA VOTAR
MAGYARORSZÁG / HUNGARY
SZEMÉLYAZONOSÍTÓ IGAZOLVÁNY / IDENTITY CARD
ADAM GERGELY
FÉRFI / M
HUN
14 10 2002
14 10 2023
096328HE
368410
PERSONALAUSWEIS
IDENTITY CARD
REPUBLIK ÖSTERR
REPUBLIC OF AUSTRIA
MUSTERFRAU
MARIA
AUT
PA1234567
01.08.2031
31.12.1981
UV-235-0°
THE HOLDER IS NOT
REQUIRED TO SIGN
Holder's signature/Signature du titulaire (10)
SIGNATURE OF BEARER / SIGNATURE DU TITULAIRE / FIRMA DEL TITULAR
THE UNITED STATES OF AMERICA
A00041764
PASSPORT
USA
SAMPLE
SUSANNA
UNITED STATES OF AMERICA
26 DEC 1991
F
UTOPIA
11 AUG 2021
10 AUG 2031
STATES DEPARTMENT OF STATE
ÍSLAND
PA
ÆVARSDÓTTIR
ÞURÍÐUR ÓSP
BRITAIN AND NORTHERN IRELAND
Passport No./Passeport No.
999148544
GBR
HONG KONG SPECIAL ADMINISTRA
PASSPORT
CHAI
CHUN
CHINESE
23 APR 19
IMMIGRATION DEPARTMENT
P<CHNCHAI<<CHUN
SWEDEN SUÈD
SPECIMEN

Thank you for your kind attention

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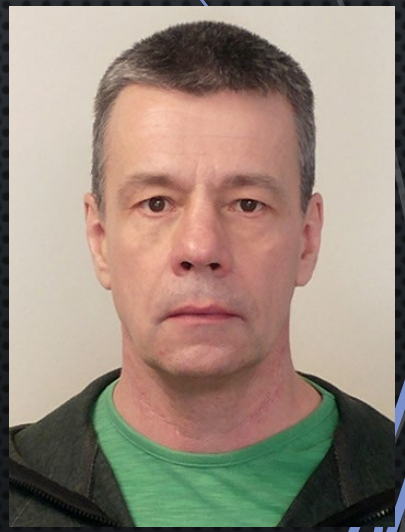
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