Unveiling Digital Secrets: Investigating Identity Documents through Digital Forensics

Deniss - Bogdan ONOFREI - RIZA Head of Forensic Laboratory





INVESTIGATION - COMPUTERS

Due to the limited processing resources, the multitude of CPU architectures, and the variety of protected operating systems, the recovery of the evidence in a computer system is a complex process.

INVESTIGATION - MOBILE DEVICES



The data collection, investigation, and evaluation from a mobile device are the main operations that allow the identification and interpretation of potential evidence stored internally.



Network artifacts allow the detection and analysis of malicious code, confidential information, cyber-attacks, breaches of copyright agreements, and so on.

INVESTIGATION - CLOUD DATA

The development of acquisition techniques and efficient analysis of evidence from the Cloud platforms are essential elements for the process of data recovery.



DATA RECOVERY

Data recovery in Digital Forensics is crucial for uncovering evidence, reconstructing digital trails, and solving cybercrime.

ENCRYPTED DEVICES AND DATA

The development of proprietary solutions and modules is an essential process that aids the digital investigations of data and encrypted devices.

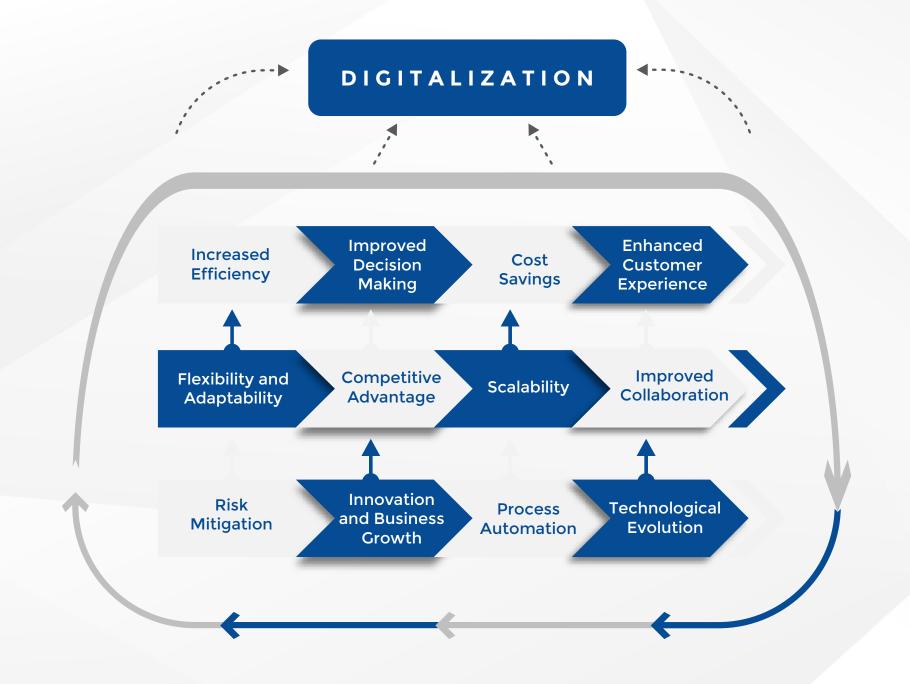


The investigation of messaging services (desktop or mobile) is a vital component of digital forensics to detect cyber attacks or cyberstalking.





Credentials recovery is a vital process that allows investigators to access essential information and protected digital evidence.







DIGITAL FORENSICS

DIGITALIZATION



Advanced ID verification system multi – layer distributed

Scan X





AFX

AForm eXpert - universal bridge for integrating and securing the collected data Advanced EVent Attendees Management system

Scan EV



Advanced ID verification system multi – layer distributed

Scan X





AFX

AForm eXpert - universal bridge for integrating and securing the collected data Advanced EVent Attendees Management system

Scan EV





Windows / Linux based 2 core optimized Multiple instances Custom Web API Parse jobs management



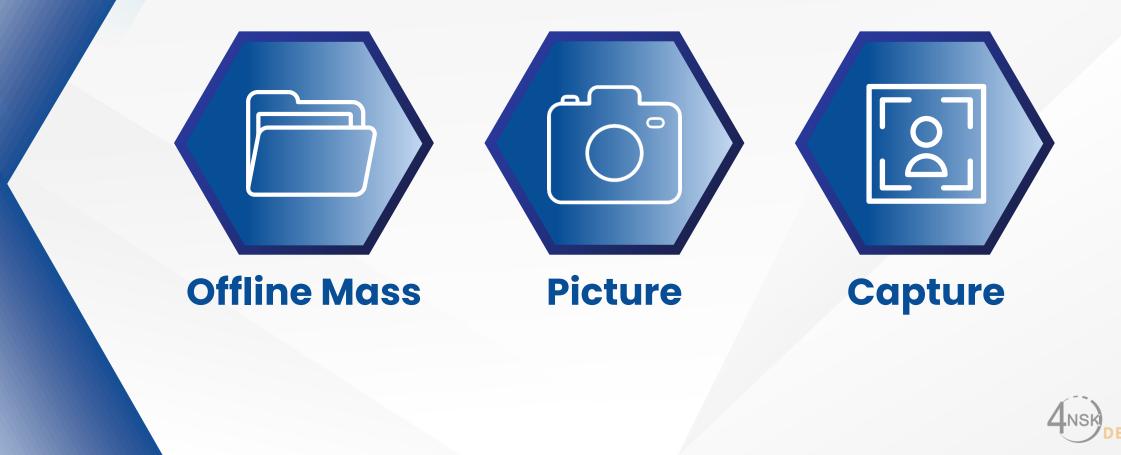


Android-based (iOS on demand) l core optimized One instance/device Custom ROM on-demand Parse jobs management

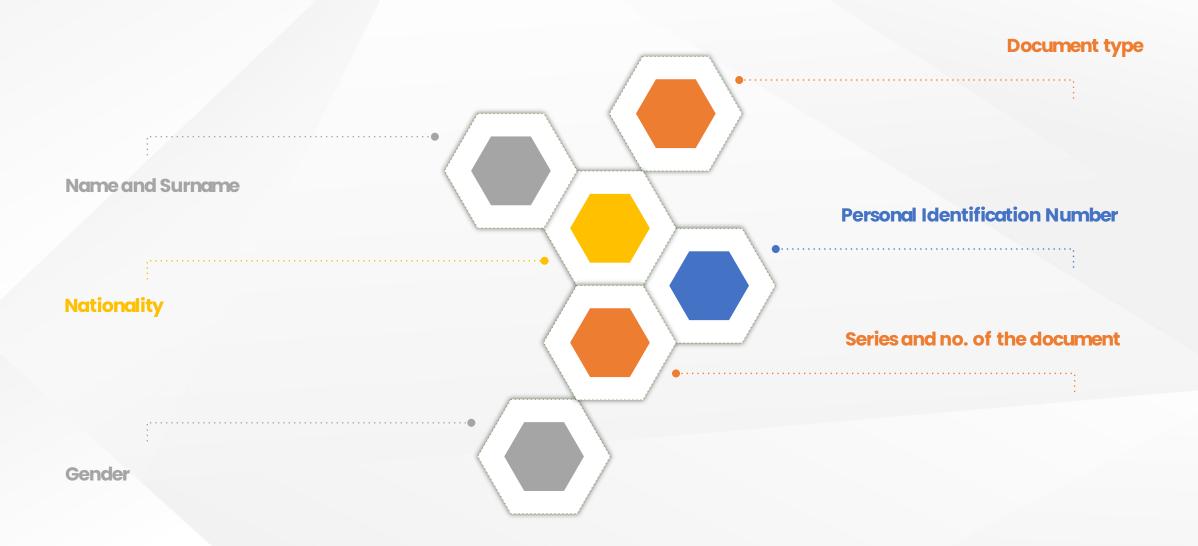




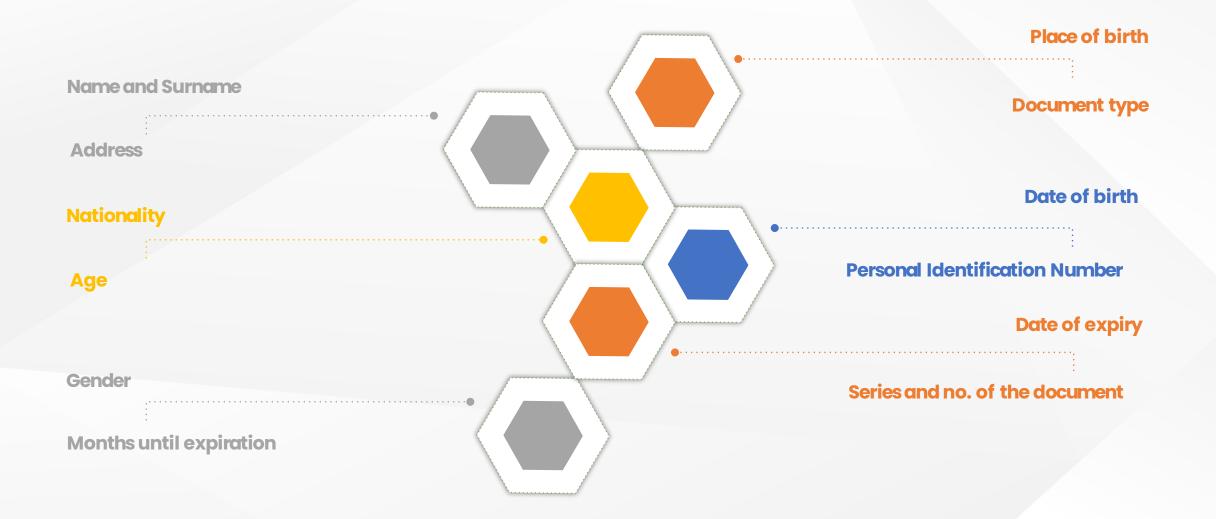
CAPTURE SOURCES / INPUTS



National Identification Document / Passport / Driver's licenses EU Identification Document / Non-EU Identification Document



National Identification Document / Passport / Driver's licenses EU Identification Document / Non-EU Identification Document



National Identification Document / Passport / Driver's licenses EU Identification Document / Non-EU Identification Document





Exited: 0 CAPTURE Still inside: 3 O Expired: 0 1389 🚢 Invalid - Export Hotel () Expired → Mark as exited () Expired n: 19.9.2022, 12:49 🚢 Valid Export + Hotel → Mark as exited n: 19.9.2022, 12:49 Export. Hotel



Custom privacy engine[®]

Dedicated authenticity verification module

VIZ and MRZ Full international support

More than 174 countries coverage

Translation for top 129 world's most spoken languages

Real-time international translation of all identified elements

Works on IDs, passports, driver's licenses, and much more





Dedicated engine able to create custom digital forms

Cross platform custom developed product

Self developed connectors for external databases

Customized alerts and metrics (Stegano[®])

Frequently updated (Application, Database, AI algorithms)

Easy to use/ intuitive and customizable

Attendance feature (in/out)



Dedicated engine able to create custom digital forms

STRUCTURA TURISTICA

Seria A Nr.

ROOM NO

FISA DE ANUNTARE A SOSIRII SI PLECARII

REGISTRATION FORM - ANMELDUNG - FORMULAIRE

TO BE COMPLETED ON ARRIVAL - AUSZUFULLEN BEI DER ANKUFT - POUR COMPLETER L'ARRIVEE

| ROUMANIE | ROMÁNITA | ROMANIA | | TO BE COMPLETED ON ARRIVAL - AUSZUFULLEN BEI D | |
|----------|---|---|--|--|--|
| | CARTE CARTE DE IDEN D'IDENTITE SERIA XX NR 99 CNP 2721225196128 | | NUMELE SI PRENUMELE SURNAME AND CHRISTIAN NAME NAME UND VORNAME NOM ET PRENOM | | |
| | Nume/Nom/Last name MANOLE Prenume/Prenom/First name | | DATA NASTERII DATE OF BIRTH GEBURTSDATUM DATE DE NAISSANCE | LOCUL NASTERII PLACE OF BIRTH GEBURTSORT LIEU DE NAISSANCE | |
| | CORINA IOANA Cetăţenie/Nationalite/Nationality ROMĂNĂ / ROU Loc naștere/Lieu de naissance/Place of birt MUN. București Sec. 8 Domiciliu/Adresse/Address MUN. București Sec. 8 | Sex/Sexe/Sex | DOMICILIUL RESIDENCE WOHNSITZ DOMICILE | | |
| | | | DATA SOSIRII DATE OF ARRIVAL ANKUNFTSDATUM DATE D'ARRIVEE | DATA PLECARII DATE OF DEPARTURE ABREISEDATUM DATE DE DEPART | |
| Corpo | Str. Alba Nr. 12 Bl. 2 Sc. 8 Et. 3 ap. 65 Emisă de/Delivree par/Issued by S.P.C.E.P. Sector 8 | Valabilitate/Validite/Validity 28.07.2021-28.07.2031 | ACT DE IDENTITATE IDENTITY CARD PERSOLAAUSWEIS PAPIERS D'IDENTITE | | |
| | | | COD NUMERIC PERSONAL PERSONAL IDENTIFICATION NUME PERSÖ NLICHE IDENTIFIKATIONSN NUMÉRO D'IDENTIFICATION PERSO | UMMER | |

Conform H.G. nr. 237/2001



Dedicated engine able to create custom digital forms

STRUCTURA TURISTICA

ROUMANIE ROMANIA IRO CARTE D'IDENTITE CARTE DE IDENTITATE SERIA NR CNP Nume/Nom/Last name Prenume/Prenom/First name Cetățenie/Nationalite/Nationality Se Loc naștere/Lieu de naissance/Place of birth Domiciliu/Adresse/Address Valabilitate/Validite/Validity Emisă de/Delivree par/Issued by ev S.P.C.E.P. Sector 8 28.07.2021-28.07.2031

| | DATA NASTERII | LOCUL NASTERII | | |
|------------------|---|---|--|--|
| | DATE OF BIRTH 25 / 12 / 1972 GEBURTSDATUM DATE DE NAISSANCE | PLACE OF BIRTH GEBURTSORT LIEU DE NAISSANCE | | |
| ex/Sexe/Sex F | DOMICILIUL RESIDENCE MUN. București Sec. 8 | | | |
| | WOHNSITZ Str | Str. Alba Nr. 12 Bl. 2 Sc. 8 Et. | | |

| NUMELE SI PRENUMELE SURNAME AND CHRISTIAN NAME NAME UND VORNAME NOM ET PRENOM | MANOLE CORINA IOAI | NA | | |
|--|--|--|--|---------|
| DATA NASTERII DATE OF BIRTH 25 / 12 / 1972 GEBURTSDATUM DATE DE NAISSANCE | LOCUL NASTERII PLACE OF BIRTH GEBURTSORT LIEU DE NAISSANCE | I. București Sec. 8 | CETATENIA NATIONALITY STAATSANGEHORIGK NATIONALITE | ROU |
| | JN. București Sec. 8 . Alba Nr. 12 Bl. 2 Sc. 8 I | Et. 3 ap. 65 | TARA COUNTRY LAND PAYS | ROMÂNIA |
| DATA SOSIRII DATE OF ARRIVAL ANKUNFTSDATUM DATE D'ARRIVEE | DATA PLECARII DATE OF DEPARTURE ABREISEDATUM DATE DE DEPART | | SCOPUL CALATORIEI PURPOSE OF TRAVEL ZWECK DER REISE MOTIVE DE VOTRE V | |
| ACT DE IDENTITATE IDENTITY CARD PERSOLAAUSWEIS PAPIERS D'IDENTITE | СІ | SERIA NR. SERIES NO. SERIE NR. SERIE NO. | XX 999999 | |
| COD NUMERIC PERSONAL PERSONAL IDENTIFICATION NUMBE PERSÖ NLICHE IDENTIFIKATIONSNU NUMÉRO D'IDENTIFICATION PERSO | MMER 2/21225196128 | NUMAR TELEFON PHONE NUMBER TELEFONNUMMER NUMÉRO DE TÉLÉPHON | Έ | |
| SEMNATURA TURISTULUI TOURIST'S SIGNATURE UNTERSCHRIFT DES TOURISTEN SIGNATURE DU TOURISTE | | SEMNATURA RECEPTIO RECEPTIONIST'S SIGNA UNTERSCHRIFT DES EM SIGNATURE DU RECEPT | TURE IPFANGSCHEFS | |

Seria A Nr.

ROOM NO

FISA DE ANUNTARE A SOSIRII SI PLECARII

REGISTRATION FORM - ANMELDUNG - FORMULAIRE

TO BE COMPLETED ON ARRIVAL - AUSZUFULLEN BEI DER ANKUFT - POUR COMPLETER L'ARRIVEE

Conform H.G. nr. 237/2001







| Auto device discovery® |
|------------------------|
| Live check |
| RFID chip |



Different environment conditions (angles, objects, light, distance) Motion scene Static scene

More than 18000 international IDs

UNDER 1.2 SECONDS



Different environment conditions (angles, objects, light, distance)

Static scene

Motion scene

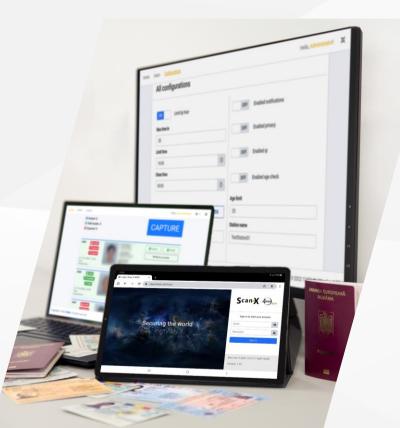
More than 19500 international IDs

UNDER 1 SECOND (~ 0,6 - 0,9 sec.)



Advanced ID verification system multi – layer distributed

Scan X





AFX

AForm eXpert - universal bridge for integrating and securing the collected data Advanced EVent Attendees Management system

Scan EV



AForm eXpert - universal bridge for integrating and securing the collected data

Proprietary technology for identifying forms that collect information

Integration of support for web and desktop applications (mobile – in development)

AI module for interpretation and positioning results (human behavior emulation)

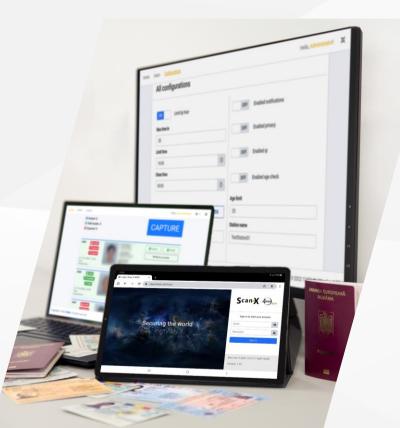
Secure data transmission protocol

Advanced calibration capabilities of various OS (hardware components)



Advanced ID verification system multi – layer distributed

Scan X





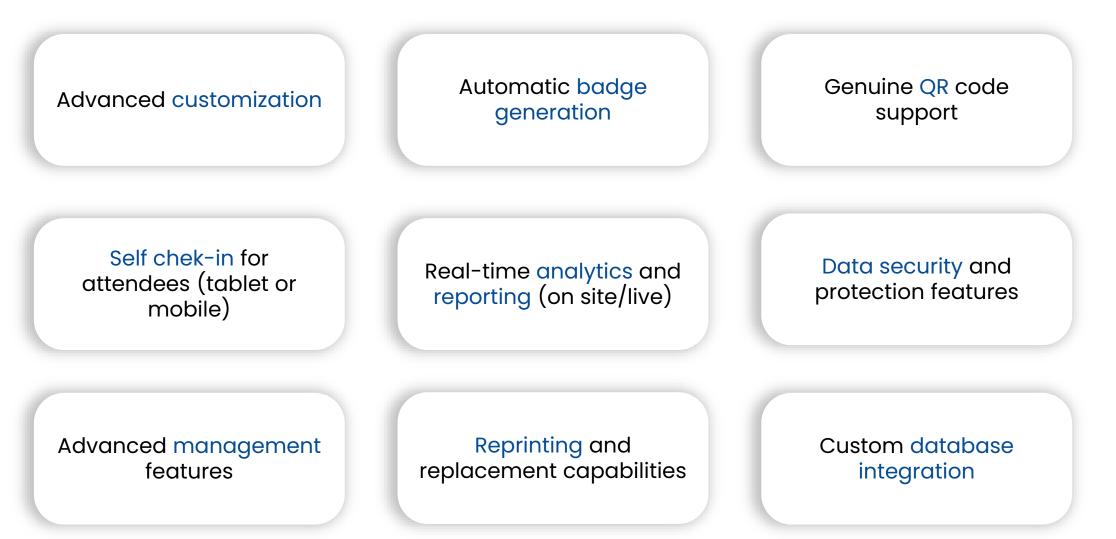
AFX

AForm eXpert - universal bridge for integrating and securing the collected data Advanced EVent Attendees Management system

Scan EV



Advanced registration for an effortless and seamless check-in







Scenarios

Law Enforcement | Airport Check | Hotels | Hospitals | Healthcare Check-in | Voting

Delivery | Post Services | Banks | Age Restricted Access | Car Rentals | Public Events















Fine Issuing Support | Clubs | Contract Signing | Casinos | Validity Check | Exams

Registration | Exchange | Courthouse Access | Pawn Shop | Sports Betting | Bars



