Secure eGovernment Solutions

High quality information systems designed to offer the most innovative electronic services to citizens and businesses

NetSeT
GLOBAL SOLUTIONS

member of group
VERIDOS
Identity Solutions
by Giesecke+Devrient
and Bundesdruckerei

Digital Identity & Data Security

Digital Citizen Identity

Responsible management of personal information is the key step in providing reliable digital identities. This entails having the knowledge to recognize different data groups, being able to handle biometric data such as fingerprints and facial images, and knowing how to reliably authenticate interested third parties. Citizen data security plays major role in this process.

Protection of confidential citizen data is a challenge that dates back to ancient times. Providing secure access and transfer of such data is a bedrock of all modern information systems that govern digital citizen identity. These systems form the basis of secure digital societies where data truly belongs to their owners.

Citizen Data Security

About

NetSeT is a global provider of information systems for electronic citizen identification, eGovernment solutions and systems for secure communication and data exchange. Founded in 1999, the company is located in Belgrade (Serbia).

Mission

Our mission is to provide governments with high quality secure eGovernment systems, streamlining their processes and offering the most innovative electronic services to citizens and business. On this quest we will continue to seek for highest standards in product quality and create new ways in which citizens and businesses communicate with governments.

Partnership

NetSeT is a strategic partner of the Ministry of Interior of the Republic of Serbia for ICT Systems, and a partner of University of Belgrade School of Electrical Engineering.

VERIDOS
IDENTITY SOLUTIONS
by Giesecke+Devrient
and Bundesdruckerei

Member of Veridos Group

NetSeT is a strategic partner of Veridos GmbH, a joint venture of Giesecke+Devrient (Munich) and Bundesdruckerei (Berlin). Veridos brings together two largest German suppliers of identity documents, forming a network of 72 subsidiaries, joint ventures and associated companies in over 30 countries, and employing over 11,000 people around the world. As a member of this group, Veridos pools their specialist expertise, the many years of experience, and the innovative power required to build a 2+ billion euro business.

Business domain

Government
Corporate
Finance
Healthcare

Certifications

ISO 27001
Information Security
ISO 9001
Quality Management System
Bisnode AAAHighest Creditworthiness

Our eGovernment products

Since NetSeT's operations are primarily concentrated around eGovernment area, it doesn't come as a surprise that our clients are primarily government institutions. Aside from government institutions, we support corporate, healthcare and financial sectors, providing them with state of the art solutions that are highly secure and yet easy to use.
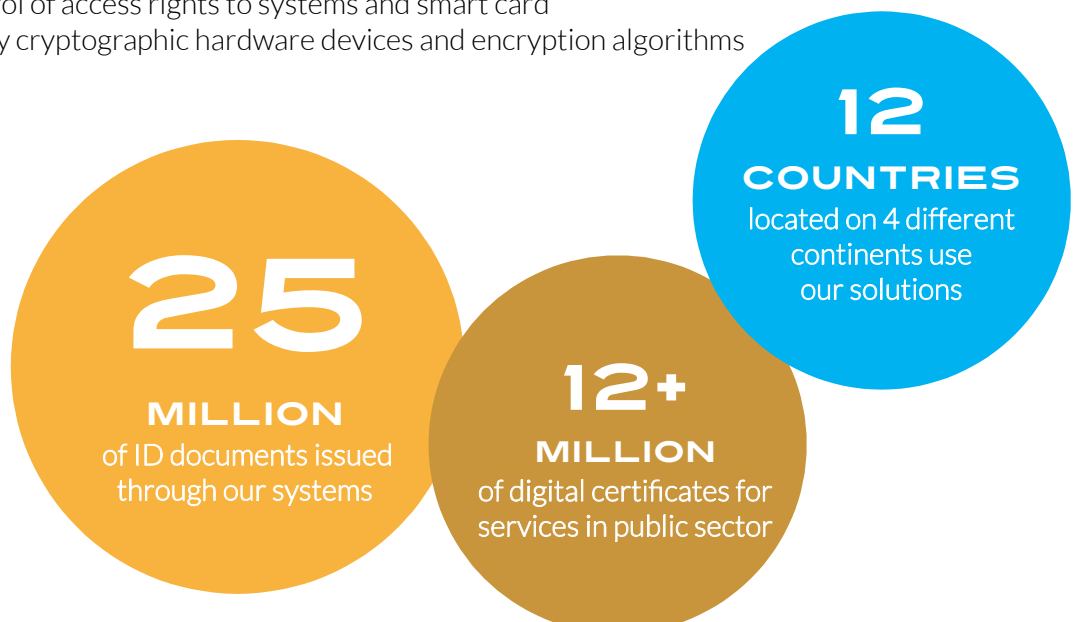
Our end-to-end solutions

- Identity document management systems
- National citizen registers
- Public key infrastructure and digital signature (ICAO & X509 PKI)
- Border control system

Applications and system components

- Enrolment of biometric citizen data
- Smart storage and distribution of identity documents
- Solutions for verification of identity document data
- Smart card personalization systems
- Various solutions for:
  - digitally signing documents
  - encrypting and protecting files
  - exchanging confidential information
  - performing client authentication

Data protection

- Cryptographic protection of system logs
- Exchange of highly confidential data
- Cryptographic protection of SMS and voice calls
- Secure data storage and archiving
- Rigid control of access rights to systems and smart card
- Proprietary cryptographic hardware devices and encryption algorithms

25 MILLION of ID documents issued through our systems

12+ MILLION of digital certificates for services in public sector

12 COUNTRIES located on 4 different continents use our solutions

Citizen data management & data protection worldwide

Our products are fully developed by our group of highly motivated engineers located in Belgrade. Our growing base of clients includes institutions from 14 countries located on 4 different continents.
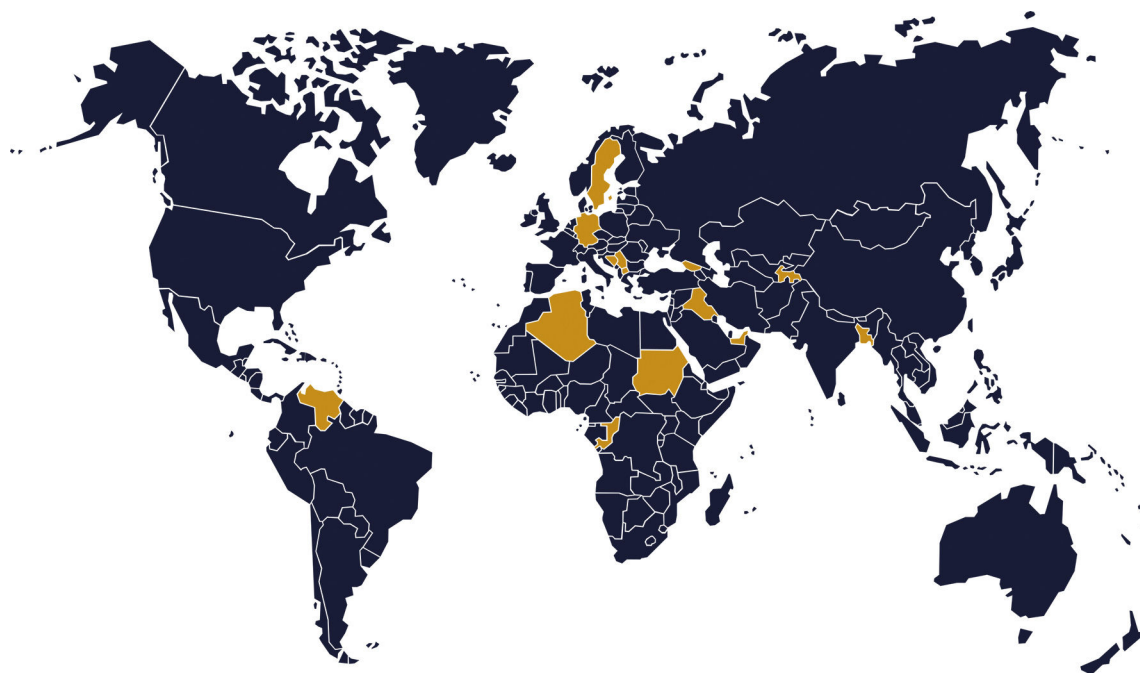
Bosnia and Herzegovina

IDDEEA Agency

Serbia

Ministry of Interior

Ministry of Foreign Affairs

Ministry of Defence

Ministry of Trade and Telecommunications

Government of the Republic of Serbia

National Printing Institut (ZIN)

National Health Insurance Fund

Chamber of Commerce

Ministry of Science

Central Securities depository and clearing house

VIP Mobile

United Arab Emirates

Federal authority for Identity and Citizenship

Germany

EMDS
Sofico

Sweden

Tax Authority

Sudan

Ministry of Foreign Affairs

Iraq

Ministry of Interior

Algeria

Postbank

Macedonia

Ministry of Interior
VIP Mobile

Bangladesh

Department of Immigration & Passports

Tajikistan

Ministry of Foreign Affairs

Georgia

Ministry of Interior

Republic of Congo

Ministry of Interior

Venezuela

Inteligensa

Key selling point of our products is

QUALITY

Designing large scale systems (national projects) that manage sensitive citizen data demands highest standards in software development and rigorous testing procedures. This is why quality has central focus in all products and services that we offer. We achieve quality by investing in design of our solutions and coming up with state of the art internally developed tools and best practices.

Domain knowledge, know-how and experience

1

As a team, we are experts in managing citizen data and data security. Our product portfolio strongly resonates with these two traits of our company, and both of these aspects can be seen in all our products. Having such a strong focus on managing citizen data allows us to leverage our experience and constantly learn and improve our products through implementation of various projects. We make sure to offer "the best of all" product features and practices to all our clients, taking great care that features and takeaways from new projects also end up in our platform for new projects.

Model Driven Development (Executable UML)

Experience has thought us that the key to building reliable systems is in investing a lot of efforts in design phase and having your source code, documentation and system diagrams constantly in synchronization. The way we answered to these challenges is by adhering to model driven SW development, automatization of SW development process and coming up with the state of the art Executable UML tools which generate source code from UML diagrams. These sophisticated tools allow us to communicate (internally and with our clients) on the level of diagrams and charts, and to use them to translate diagrams into source code.

2

Secure Software Development Lifecycle (SSDLC)

Another important aspect of making sure that product quality is kept at the highest level are company-wide best practices for designing, reviewing, building, deploying and testing during project implementation. Internally designed "Secure Software Development Lifecycle (SSDLC)" process guarantees that every single part of code that goes to the final solution has been reviewed by at least 2 people (four-eyes principle) and is uploaded and versioned to our internal servers. Using Continuous Integration tools, source code is automatically built and deployed to dedicated staging environments, which are set up to mimic the client's actual planned production environment. During the whole process, manual and automated testing is thoroughly executed, in combination with Static Analysis and performance testing tools. Comprehensive documentation which tracks all system processes is created and updated on a per-project basis according to company's best practices.

3

Recruiting and training process

4

At NetSeT, we are aware that everything that we do starts with our people and that our people are key to our success. Every individual to come to NetSeT team is carefully selected by proficiency in his knowledge and skills, desire to learn and develop professionally, and readiness to share company values and establish strong relations with colleagues.

Apart from recruiting the best possible candidates, to maintain high quality of our products we have designed special onboarding mechanism that includes a full-time training program that lasts for a couple of months. The training program covers the following aspects: technologies that we use, internally developed tools and best practices, and domain knowledge of managing citizen data and data security. During training program, we make sure that new individuals are thought all important aspects of work, and that, once they are through with the training program, they can easily integrate in project teams and work alongside more experienced colleagues.

Value proposition
for our clients

Technical expertise

Our employees are experienced specialists from the fields of software development, digital identity management, cryptography, IT security, smart cards, managing citizen biometrics, public key infrastructure and quality assurance. They represent the largest regional group of experts of this kind.

Project and client oriented

Having a large group of software engineers as majority of our workforce and flat organizational structure allows us to be client and project centered (as opposed to being product centered). This allows us to support our clients in all project phases, from gathering requirements and performing initial analysis, through design and implementation phase, and later on during system support and maintenance. We offer customized solutions, tailored according to the needs of our clients and we provide full system integration into the existing infrastructure of our clients.

Reliability & Trustworthiness

Numerous references as well as recurring projects with clients are the best testimony that our company is a reliable and trustworthy partner. Some of our systems have been running steadily for over a decade. In 2016 we became the only privately owned company that is a strategic partner of the Ministry of Interior of the Republic of Serbia for ICT systems. This is yet another proof that, together with Veridos GmbH as our shareholder, our company is a reliable and trustworthy partner that delivers value to its clients.

End to end systems

We offer complete end-to-end solutions for identity document issuance and management, national citizen registers, public key infrastructure and border control. An example of such a solution is our platform for managing identity documents (so called IDStar platform). IDStar is identity document management system that covers complete document lifecycles, from biometric citizen data enrollment, through central data processing and smart card personalization, and all the way to the document issuance and tracking document's lifecycle post issuance.

High system modularity

Our products are built as platforms, meaning that they are built from internally developed modular components. This means that we can quickly adapt our solution to existing infrastructures and easily add new features and fulfill client's requests. High modularity also enables us to separate different levels of data processing, making each level independent and thus easily modifiable or exchanged.

NetSeT's product portfolio

Identity document management system IDStar

National citizen register NatReg

Public key infrastructure

Highly confidential data exchange system Cryptis

Border control system

System components & standalone mobile and desktop applications

Identity Document management system – IDStar

IDStar platform covers the complete lifecycle of identity documents, including creating requests for identity documents, processing requests, document personalization, physical document transportation and document delivery.

Issuance of various ID documents

The platform supports management of all kinds of identity documents, including:
- Passports (regular, diplomatic, special)
- ID Cards
- Health care/insurance cards
- Driving and vehicle licenses
- Employee cards
- Tax cards

Tailored to your business processes

The solution manages concepts of applications for documents, biometric citizen data (face image, iris scan, fingerprints, biometric signature), supporting documents (attachments), card personalization, document storage and logistics.
The following key business processes are the part of the platform:
- Creating new applications for documents
- Searching and previewing data of citizens, applications for documents
- Biometric citizen data enrollment
- Performing 1:n and 1:1 background check against an Automated Fingerprint Identification System (AFIS) or an Automated Biometric Identification System (ABIS).
- Tracking all actions performed in the system
- Smart Storage solution for storing blank documents and personalization machine spare parts
- Document personalization and integration with various types of personalization machines
- Tracking physical location of identity documents while they are transported to delivery site
- Tracking identity document lifecycle after document issuance (if document is expired, stolen, lost, damaged…)
- Quality control
- Notification mechanism (SMS, eMail, Online Portal)
- Comprehensive reporting mechanism
- User authentication and managing user access rights
- Auditing

Platform also supports full range of PKI components for document data protection, including CSCA (Country Signing Certificate Authority), DS (Document Signer) and full support for Extended Access Control (EAC).

Qualified X509 digital certificates on smartcards issued byIDStar

IDStar provides complete management of digital certificates stored in smart cards. The platform covers:
- Registration of new requests for X509 digital certificates Issuing cards with NetSeT's applet and middleware (PKCS11 and CSP)
- NetSeT's Certificate Authority (StarFish)
- Optical and electronic personalization of smart cards
- Printing users' PIN codes in sealed envelopes
- Issuing certificates, unblocking PINs and many other features

System in use in more than 10 countries

- Serbia
- Bosnia and Herzegovina
- Iraq
- Macedonia
- Sweden

- Germany
- Venezuela
- Tajikistan
- Sudan
- Georgia

National Citizen Register - NatReg

National Citizen Register (NatReg) manages citizen data of entire population of a country. NatReg represents a heart of the eGovernment system, maintaining master citizen data and sharing this data with other systems in a controlled way. NatReg manages text and biometric citizen data, life events (birth, marriage…) and relations among citizens (e.g. family, siblings, husband and wife).

All data in one place

The following key business processes are a part of the platform:

- Storing citizen data in a highly-secured manner
- On demand sharing of data with other government institution
- Data categorization and management
- Data analysis, search and various data manipulations
- Creating comprehensive statistical reports
- Scanning and sorting paper documents
- Auditing

NatReg managing data of

40+

MILLION

people in one country

Strict access control

NatReg takes great care in controlling what system functionalities and which kind of citizen data operators and external systems have access to. It further tracks all actions performed in the system and makes sure that citizens' privacy is maintained. Given the high degree of data confidentiality, NatReg is usually deployed in combination with our Cryptographically Protected Audit Log (CPAL) system which chains together and digitally signs blocks of system logs, making sure that the system is safe from all kinds of internal threats (including malicious database administrators).

NatReg and Government Service Bus

Majority of Governments around the world use some sort of Governments Service Bus for exchanging data among Government institutions. Since protection of shared data is of a paramount importance to all Governments, NatReg is often deployed together with our Crypto Proxy secure data exchange system in order to achieve the highest possible security standards in data protection. Crypto Proxy protects access to Government Service Bus and preserves confidentiality of shared data from both inside and outside threats, making sure that only eligible institutions can join Government Service Bus and that shared data is only available to institutions the data is addressed to.

Complete infrastructure for citizen data management

NatReg and IDStar are two building blocks which form a complete infrastructure for managing identities and related citizen data. Together they streamline government processes and create strong digital base for online authentication and physical identification of citizens, making countries a safer place with more efficient government processes.

Other benefits of NatReg

- Easy integration with existing systems
- Digitalization of legacy archive
- Implementation of blacklists, stop lists and white lists
- Support for geographically distributed system topology

Public Key Infrastructure

Qualified Digital Signature (PKIStar)

PKIStar platform provides a complete set of services required for online authentication, digitally signing documents and protection of documents exchanged online. It offers Public Key Infrastructure for issuing and managing qualified X509 digital certificates stored on smart cards and in cloud. The platform is fully compliant with both European (EIDAS) and local (Serbian) regulations for managing qualified digital signatures. The platform is designed to support integration with various types of HSMs (Hardware Security Devices) used for storing keys and preforming cryptographic operations.

In Serbia only, PKIStar platform is used in four different institutions that provide qualified digital certificates (Ministry of Interior, Serbian Chamber of Commerce, National Post of Serbia and Serbian Military).

Qualified X509 digital certificates on smart cards

PKIStar allows complete management of digital certificates stored in smart cards. The platform covers:

- Registration of new users
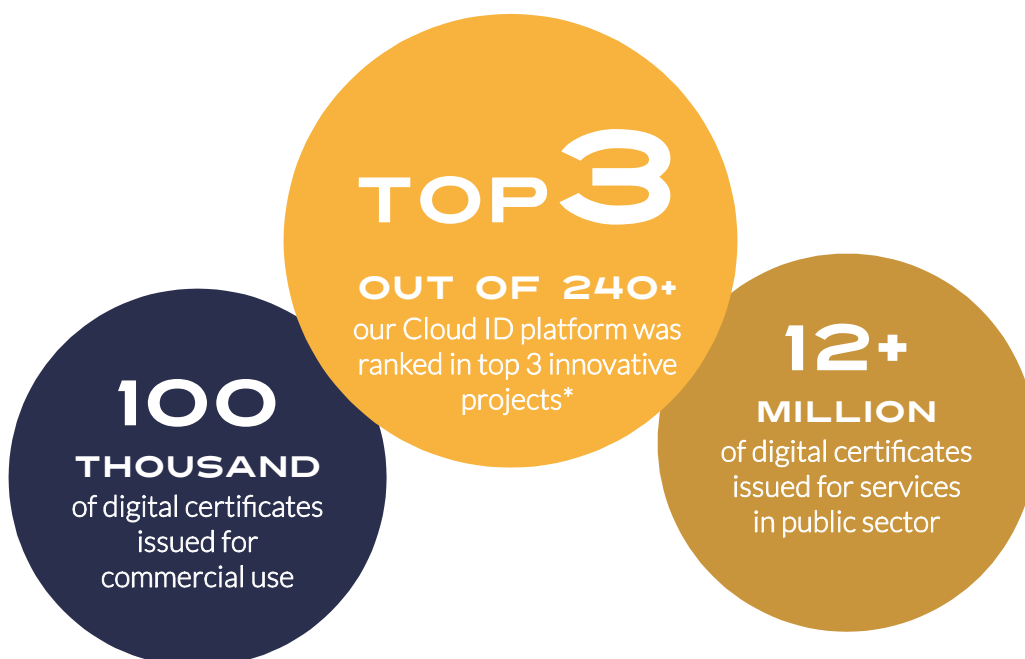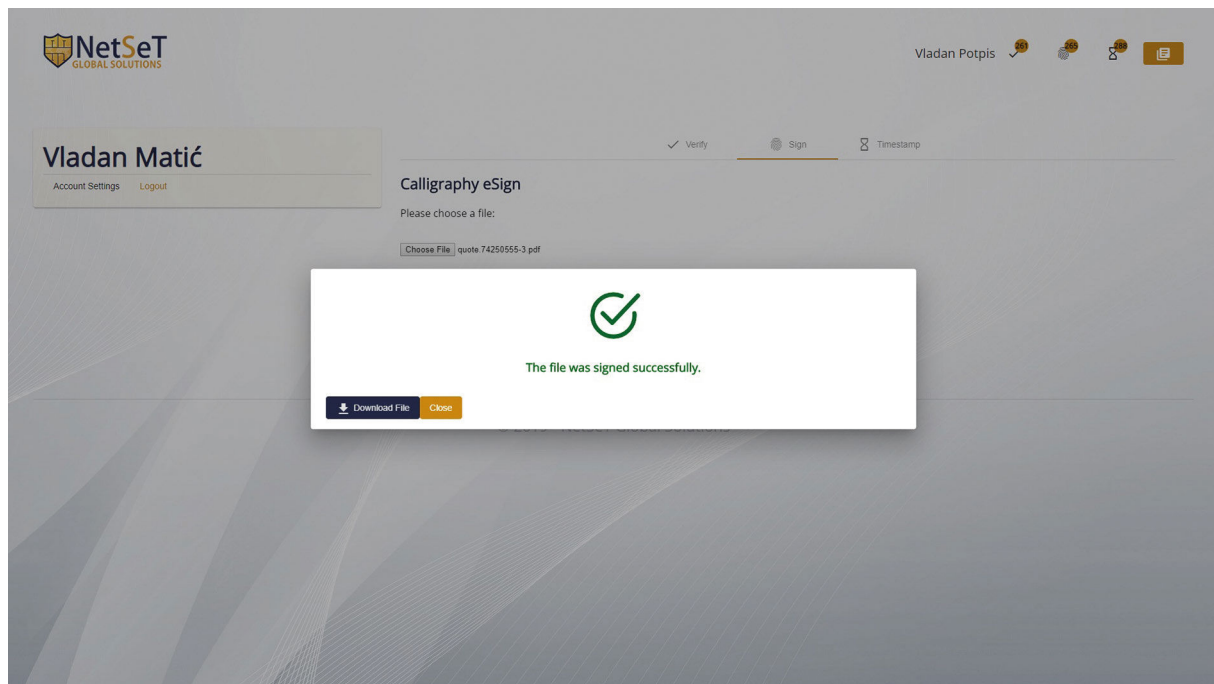- Creating CSR (Certificate Signing Requests)
- NetSeT's Certificate Authority (StarFish)
- Optical and electronic personalization of smart cards
- NetSeT's Applet that stores and protects user's cryptographic keys
- NetSeT's PKCS11 and CSP cryptographic middleware (Windows, Linux, Mac OS)
- Printing users' PIN codes in sealed envelopes
- Issuing certificates, unblocking PINs and many other features

Qualified X509 digital certificates in cloud

PKIStar platform is fully compliant with European EIDAS regulation (electronic Identification, Authentication and trust Services), providing comprehensive digital signature operations in cloud:

• Digitally signing documents in cloud
• Online verification of digitally signed documents
• Timestamping documents,
• Long term signing and archive timestamping
• Visible representation of a digital signature
• Assigning digital seals to documents
• Two factor authentication
• Single Sign On (SSO)
• Android and iOS mobile applications

TOP 3

OUT OF 240+
our Cloud ID platform was ranked in top 3 innovative projects*

100 THOUSAND
of digital certificates issued for commercial use

12+ MILLION
of digital certificates issued for services in public sector

*In december 2017 international experts committee gathered by the Innovation fund of Serbia ranked our "Cloud-based digital identity" project in top 3 out of 240+ projects and awarded NetSeT with financing.

Highly confidential data exchange system - Cryptis

Cryptis is a specialized secure information sharing platform used for protecting and exchanging highly confidential documents and information such as state secrets and sensitive dispatches exchanged between government institutions.
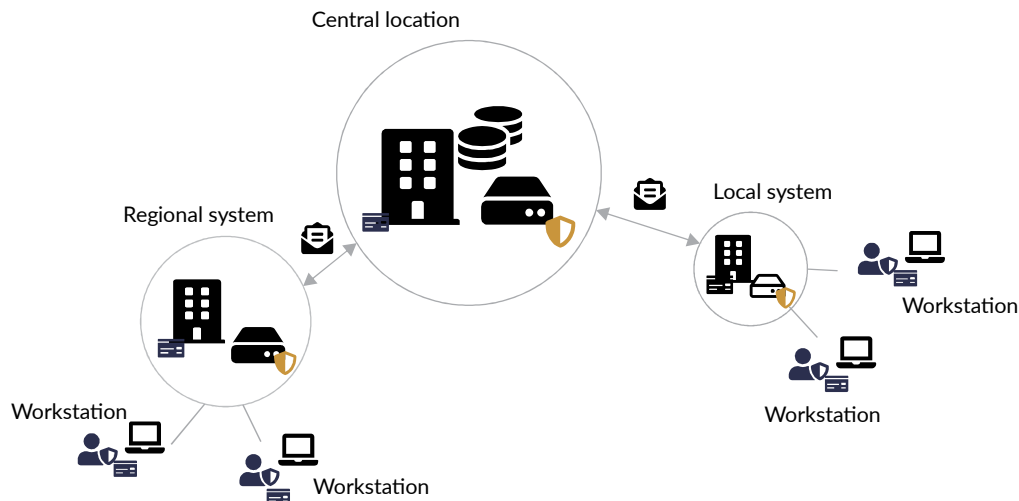
Some of the basic functionalities of Cryptis

Cryptis enables secure creation, exchange and archiving of files of all levels of confidentiality. The platform is designed for complex, geographically distributed systems with the possibility of mobile access. The system adapts to various security requirements by supporting both conventional and proprietary encryption algorithms and devices. Other features offered by the system:

- Encrypted communication between different nodes of the system
- Digitally signing messages using employee cards
- Strict access control and configurable user management
- Support for various types of attachments including pictures and videos
- Authorization and monitoring of exchanged messages
- Saving and archiving messages

Crypto Guard

Proprietary hardware security device that provides fully protected end-to-end exchange and storage of sensitive data. It performs detection of unauthorized and malicious attempts to change the data, guarantees authenticity, privacy and integrity. It comes either as a network attached hardware device or as a USB device.

iCD0804

Military device that enables exchange of data in real time within tactical and strategic PDH communication networks. The device uses specialized, specifically designed cryptographic algorithms which can be customized according to client's needs.

Border control system

Together with our partner Veridos, we offer a complete set of solutions required to secure all types of country borders (airports, seaports and land borders).

VeriGO platform represents an effective and reliable border control solution which records all border crossings, checks for visa violations and provides comprehensive statistical reports. Automatic Border Control (ABC) eGates / kiosks which provide efficient and cost effective way of managing borders, are an integral part of the overall border control system. Together with its partner companies Secunet, Veridos, the parent company Bundesdruckerei implemented the German ABC system.

## Some important aspects of VeriGO platform

- Automatic Border Control (ABC) eGates / kiosks
- Optical and electronic travel document verification
- Complete PKI infrastructure compliant with ICAO and EAC specifications
- 1:1 fingerprint, IRIS and ISO facial image matching
- 1:n check against an Automated Fingerprint Identification System (AFIS) or an Automated Biometric Identification System (ABIS).
- Automatic check against background watch lists
- Management of stop lists, black lists and white lists
- Easy integration with external systems (Interpol, Schengen Information System, etc.)
- Configurable alarms and notifications
- Multi-level approval inspection stations (primary, secondary etc.)

Command & Control Center

Another important part of the solution is the Command & Control system which allows centralized processing and analysis of data received from all border crossings.

System components
& standalone apps
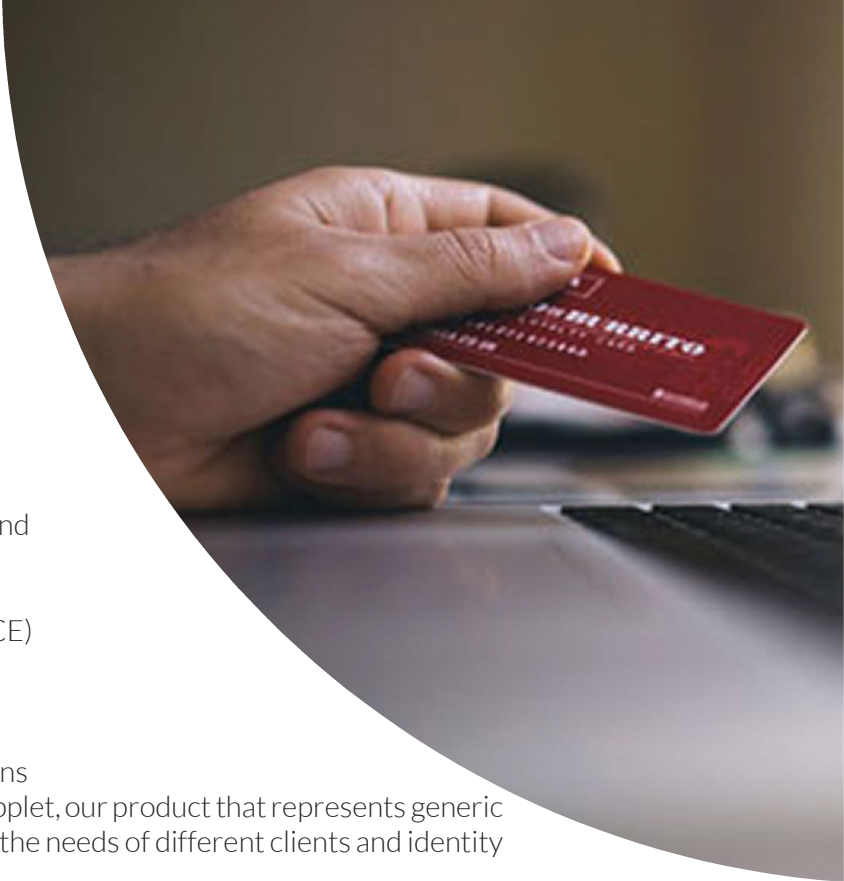
Applets & Middlewares

Our palette of Applets (card applications) and
Middlewares is designed for:
- Data storage and protection
- Secure data access protocols (BAC/PACE)
- Data Encryption
- Digitally Signing data
- CVC Certificate verification
- Management of cryptographic operations

NetSeT's applets are based on universal Applet, our product that represents generic
Applet that can be easily modified to meet the needs of different clients and identity
document kinds.

CPAL - Crypto-protected audit log

Cryptographically protected audit log of all system actions. CPAL manages system log and
assures that all actions that took place in the system are cryptographically protected and
stored in the log. This means that system actions are protected from all users including
database administrator. Log verification is supported to investigate if any illegal action took
place on logged data. Graphical web interface allows operators to efficiently overview or
search logged data.

StarFish - Qualified certificate authority
for issuing X509 digital certificates

National grade qualified certificate authority for issuing X509 digital certificates. The system
allows full control over digital certificates, including: issuance, activation, suspension and
revocation. Starfish supports integration with various HSM devices and it provides complete
infrastructure for setting up Root CA and multiple instances of Intermediate CAs, Certificate
revocation can be implemented by using both CRL and OCSP mechanism.

User Guardian - Central authentication and authorization

Central authentication and authorization system component managing all users and their
access rights within the system. Level of access rights and available resources are defined
through concepts of users and their system roles. Through system's graphical user interface,
system administrators create and assign roles to system users.

Crypto Proxy

Reverse proxy server that routes all requests sent to the background server. It specifies cryptographic standards that clients must comply with in order to get access to the server. Crypto Proxy is an ideal solution if you want to improve the security of your existing system to a higher level without changing the system itself. It has both client and server component and is using PKI and smartcards for authentication and secure communication.

KeyStar - storage and management of users' private keys

System for storage and management of users' private keys. The system provides functionality of creating and storing keys on the hardware security element (HSM, SmartCard), as well as their use for a variety of cryptographic operations. The system exposes its functionalities through a web service interface.

eID Logistics - Smart storage and distribution of ID documents

System for smart storage and distribution of identity documents (ID cards, passports...). The system manages stocks of blank documents and keeps track of physical location of personalized documents while they are being transported to delivery stations. The system also supports keeping track of personalization machine spare parts.

Timestamp

Timestamp Authority compliant with the IETF RFC 3161 specification allows creation of time-stamp tokens which provide independent and irrefutable proof of time for digital signatures and electronic documents.

BioEnroll – Enrolment of biometric data

Biometric enrolment system for capturing fingerprint images, facial image, signature and iris scan. BioEnroll supports integration with wide set of biometric data capturing devices supplied by different hardware manufacturers and it provides easy-to-use web service interface for integration with other system components.

Mobile applications

Mobile Crypto SMS and Mobile Crypto Voice

Mobile applications using cryptographic security module (in the form of a micro SD, NFC or some other card) in order to realize a secure transfer of information between clients. While Crypto Voice requires internet connection for transfer of protected voice communication, Crypto SMS is fully operable using GSM channel and without internet connection.
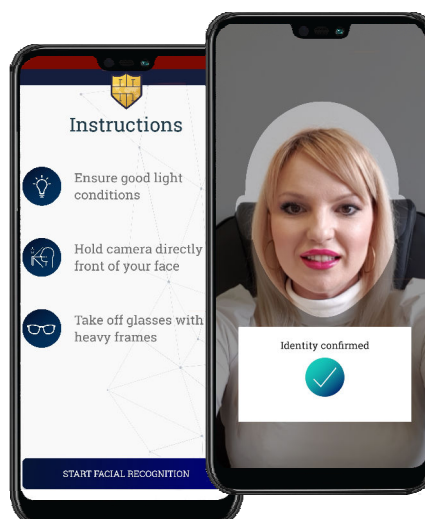
Mobile Crypto Suite

Applications from Crypto Suite domain allow clients to read contactless identity documents using NFC channel and to use them for digitally signing emails, encryption and exchange of protected files and secure client authentication. Mobile Crypto Suite also has its desktop version, providing secure communication between mobile and desktop clients and seamless experience across different devices.

Mobile Biometric Authentication

Mobile phones are widely used today for different types of services requiring secure authentication such as banking and e-commerce transactions. Traditional authentication mechanisms usually demand some kind of user specific information issued by service provider and stored by the user. The downside of this approach is that users are expected to store / remember authentication tokens such as passwords. Mobile Biometric Authentication provides secure authentication mechanism using only biometric citizen's data (facial image) and mobile phone, thereby eliminating the need for remembering passwords or any other authentication data.

Instructions

Ensure good light conditions

Hold camera directly front of your face

Take off glasses with heavy frames

Identity confirmed

START FACIAL RECOGNITION

Our team &
company culture

Everything starts with people

Every individual to come to NetSeT team is carefully selected by proficiency in knowledge and skills, desire to learn and develop professionally, and passion for data management and data security. Moreover, it is of utmost importance for us that our employees share company values, feel comfortable and welcome at their workplace, and share trust and respect with their colleagues. These traits shape the type of the people that built all the complex systems that form our portfolio, and they did this with devotion, passion and precision, but also had fun doing it. At NetSeT, we are aware that everything we do starts with our people and that our people are the key to our success.

Diversity

Although our team members share some common company values and personal traits, there are also big differences between the team members reflected in age, background, experience,expertise and personal interests. These differences make sure that together, as a team, we can cover all important aspects of solutions, have productive conversations and fruitful discussions covering different points of view. This diversity is an important building block of our solutions and is strongly correlated with high product quality.

International working environment

On a daily basis we communicate in different languages, primarily English and Serbian (our mother tongue), but also German, French, Italian and Spanish. Having a diverse portfolio of countries as our clients proves that our people understand cultural diversities and respect cultural values.

20+
YEARS
of experience on
the global market

30%
OF WOMAN
ENGINEERS
team diversity brings
quality to our solutions

Team spirit

Our growing team is brought together by much more than common projects joint work place. It's friendship, travel, sports, and other free time team activities that bond people and connect them to powerful teams. We love to play sports, chat after work and travel together. This energy helps NetSeT overcome intense periods and finish the most demanding projects with smile and good sense of humor. That is why it is a pleasure to collaborate with our crew.

Growth and learning

We adapt, we grow, we learn and we change, while sticking to our core values at the same time. That is our way to face the challenges on new projects, to deal with new clients and to maintain the top quality of our products. This principle is applied to all our departments, including engineering, project management and internal organization.

The impact of our solutions

We create products that make it easier for people to travel, identify fraud, preserve privacy and countries to prevent terrorism. We take great pride in doing so since we know that our products make countries safer place to live and government institutions more organized and with better services offered to citizens and businesses. The results of our work change lives of millions of people around the world. This is exactly how we create our own future today.

2
YEARLY TEAM TRAVELS
we ski together in wintertime and go hiking rafting in the summer

40+
ENGINEERS
dedicated to development of our systems

NetSeT
GLOBAL SOLUTIONS

Interested to know more?

Schedule a presentation

Schedule a meeting or visit us to get a live demo of our solutions, get to know our company culture, discuss product features and explore what solution best suits your needs.

How to reach us

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