BORDERLESS DIGITAL TRANSACTIONS:
PKI'S ROLE IN A GLOBALIZED WORLD

CAMEROON’S INITIATIVES ON
DIGITILIZATION WITH THE POWER OF PKI

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Director of the Cameroonian PKI Centre
AGENDA

I. CYBERCRIMINALITY OVERVIEW

II. LEGAL FRAMEWORK AND ORGANISATION

III. PRODUCTS AND SERVICES

IV. INTEROPERABILITY AND MUTUAL RECOGNITION

V. ACHIEVEMENTS

VI. DIFFICULTIES AND CHALLENGES
I. CYBERCRIMINALITY OVERVIEW (1/4)

CAMEROON

- Localization
  Cameroon is situated in Central Africa, at juncture of the Gulf of Guinea.

- Languages
  French and English are the two official languages, spoken by 70% and 30% of the population, respectively.

- Total area: 475,442 km²
- Demography: 30,135,732 of population
- Internet penetration rate: 46.5 %

Source: Presidency of the Republic web site, Ministry of Post and Telecommunications WebSite.
I. CYBERCRIMINALITY OVERVIEW (2/4)

National Agency for Information and Communication Technologies

- PROMOTION OF ICT
- SECURITY WATCH
- MANAGEMENT OF .CM & IP ADDRESSES
- SECURITY AUDIT OF INFORMATION SYSTEMS
- ELECTRONIC CERTIFICATION
The Cameroonian economy lost approximately 5.7 million $ in 2022 due to acts of cybercrime perpetrated against Cameroonian companies and public institutions.

10 788 vulnerabilities were discovered on the information systems of companies during the security audits carried out by ANTIC.

- 1.7 million $ in financial losses due to phishing;
- 2.8 million $ in financial losses due to skimming;
- 1.2 million $ in financial losses due to system intrusions;
In 2023, ANTIC received and processed:

✓ more than 16,050 requisitions relating to cybercrime in 2023;

✓ 800 requests from users through our toll-free number;

✓ 37 complaints about financial scams;

✓ 823 complaints about the hacking of user’s accounts on social networks such as Facebook, Instagram, WhatsApp, Gmail and Yahoo mail;

✓ 721 complaints relating to the hacking of professional messaging systems inflicting heavy financial losses on the victim companies;

✓ 80 complaints about phishing of websites, email addresses of Public and private companies.
II. LEGAL FRAMEWORK AND ORGANISATION (1/3)

**Institutional and legal fields**

**Two laws have been adopted in December 2010**
- Law n° 2010/012 relating to cybersecurity and cybercriminality;
- Law n° 2010/013 governing electronic communications in Cameroon;
- Law N° 2010/021 on Electronic Commerce of Cameroon.

**Institutional status**
- MINPOSTEL elaborates policy and supervises ICT and Security sector among others;
- ANTIC is responsible for applying regulations on security activities and Promotion; and awareness of ICT.
- Accredited Certification Authorities.
II. LEGAL FRAMEWORK AND ORGANISATION (2/3)

The Law N° 2010/012 relating to cybersecurity and cybercriminality

Article 17: The advanced electronic signature has the same legal value as the handwritten signature and produces the same effects as the latter.

The Law N° 2010/021 of 21 December 2010 on Electronic Commerce of Cameroon

Article 35: Officials documents may be authenticated in Government services using electronic certificates and signatures.
II. LEGAL FRAMEWORK AND ORGANISATION (3/3)

LEGAL AND REGULATORY FRAMEWORK
Laws, Decrees, Orders

2010

PUBLIC KEY INFRASTRUCTURE IMPLEMENTED

2012

ACQUISITION OF JAVA APPLETS AND ACTIVE X API OF SECURING APPS

2015

ACQUISITION OF ADDITIONAL MODULES (KMI, OCSP, TSA)

2017

ISSUING OF TLS CERTIFICATES

2021

ACQUISITION OF THE CROSS-PLATFORM SECURITY TOOLKIT

2022

ACQUIRING PAYMENT METHODS ON THE DOC@UTHANTIC SOLUTION

2023
III. PRODUCTS AND SERVICES (1/2)

Our products

Qualified electronic certificates

Advanced Electronic Signature

TLS Certificates

Doc@uthANTIC
III. PRODUCTS AND SERVICES (2/2)

OUR SERVICES

- Securing applications
- Securing online transactions
- Securing websites
- Timestamping
- Document authentication
- Approval of cryptographic means
According to the 2010 Law relating to cyber security and the fight against cybercrime, in its “article 20. - (1) An electronic certificate issued outside the national territory produces the same legal effects as a qualified certificate issued in Cameroon if there is an act of recognition of the issuing authority signed by the Minister of Posts and telecommunications
ANTIC has joined the AAECA-Net (Arab & African e-Certification Authorities Network) since 2021, a network of 12 Members, which general objective is to create a secure environment for interregional e-transactions, through mutual recognition between different Members.
VI. INTEROPERABILITY AND MUTUAL RECOGNITION (3/4)

The main missions of this organization are as follows:

✓ Unifying and harmonizing the interregional laws related to e-transactions and e-trust services based on international experiences;

✓ Working on the interoperability and mutual recognition between the Arab and African e-certification authorities as a first step, and between the countries of the two regions and the rest of the world in further steps;

✓ Establishing multilateral conventions that ensure the interoperability and mutual recognition of e-trust services between the countries of the two regions and other foreign countries.
During November 2022 AGM of the organization, a Working Group was established for the development of a Strategy for mutual recognition.

The Working Group is consisted of Certification Authorities from Tunisia, Cameroon, Benin, India, Sudan, Saudi Arabia, and Qatar.

The objective of this Working Group is to develop a strategy that enables mutual recognition between the Certification Authorities of the represented countries.
V. ACHIEVEMENTS (1/8)

Securing Electronic Platforms with cryptographic API

PROCEDURES ELECTRONIQUES

Procédures électroniques

Le e-GUCE permet aux acteurs du commerce extérieur de réaliser différentes opérations à partir de postes de travail de type PC.

Les documents obligatoires sont transmis sous forme d’images informatiques et les informations transitent d’ordinateur à ordinateur sans recopie, éliminant les risques d’erreur de saisie, et de façon confidentielle.

L’accès Internet à travers le système du GUCE met en contact les partenaires avec les réseaux internationaux mondiaux d’échanges de données du transport et de la finance.

L’accès au e-Guce se fait en cliquant sur le bouton suivant :
V. ACHIEVEMENTS (2/8)

Securing Electronic Platforms with cryptographic API
V. ACHIEVEMENTS (3/8)

Securing Web mails with Qualified certificate
V. ACHIEVEMENTS (4/8)

Securing Web Sites with TLS Certificate

Cher internaute, nous vous souhaitons la bienvenue sur le site officiel du Ministère des Forêts et de la Faune. Nous espérons vraiment que vous appréciez les secteurs de notre organisation. En effet, nous sommes chargés de la coordination de la mise en œuvre et de l’assistance à la politique du Gouvernement en matière de forêt et de faune. À cet égard, nous avons pour responsabilité la gestion et la protection des forêts du domaine national. — le ministre
V. ACHIEVEMENTS (5/8)

Securing Documents

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[Certificate Image]
V. ACHIEVEMENTS (6/8)

Securing Documents
V. ACHIEVEMENTS (7/8)

Securing Documents

**Road fund deposits documents**

**Irrevocable transfer salary attestation from MINFI**
### V. ACHIEVEMENTS (8/8)

#### Overview of secured transactions from 2022 to 2023

**2022**

<table>
<thead>
<tr>
<th>Companies/Institutions</th>
<th>Transactions</th>
<th>Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOR</td>
<td>Securing documents issued by ANOR with advanced electronic signature</td>
<td>21 398</td>
</tr>
<tr>
<td>MINEPIA</td>
<td>Securing Students diploma with advanced electronic signature delivered by this Institution</td>
<td>914</td>
</tr>
<tr>
<td>MINMAP</td>
<td>Users operating with electronic certificate on COLEPS</td>
<td>985</td>
</tr>
<tr>
<td>BUNEC</td>
<td>Digitalization of Civil Status in Cameroon with Visible Electronic Stamp</td>
<td>7 053</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>30 350</strong></td>
</tr>
</tbody>
</table>

**2023 (ongoing)**

<table>
<thead>
<tr>
<th>Companies/Institutions</th>
<th>Transactions</th>
<th>Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOR</td>
<td>Securing documents issued by ANOR with advanced electronic signature</td>
<td>18 444</td>
</tr>
<tr>
<td>BUNEC</td>
<td>Digitalization of Civil Status in Cameroon with Visible Electronic Stamp</td>
<td>6 435</td>
</tr>
<tr>
<td>CAMRAIL</td>
<td>Securing Rail tickets with advanced electronic signature</td>
<td>31 4505</td>
</tr>
<tr>
<td>MINFI</td>
<td>Securing Ministry of Finance documents (AVI)</td>
<td>30 000</td>
</tr>
<tr>
<td>MINADER</td>
<td>Securing Students diploma with advanced electronic signature delivered by this Institution</td>
<td>2 565</td>
</tr>
<tr>
<td>MINEPIA</td>
<td>Securing Students diploma with advanced electronic signature delivered by this Institution</td>
<td>1 928</td>
</tr>
<tr>
<td>MINMAP</td>
<td>Users operating with electronic certificate on COLEPS</td>
<td>1 207</td>
</tr>
<tr>
<td>FONDS ROUTIER</td>
<td>Securing documents related to road fund deposits</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>276 104</strong></td>
</tr>
</tbody>
</table>
VI. DIFFICULTIES AND PERSPECTIVES (1/2)

**Difficulties**

- Lack of regulations requiring Institutions to use electronic certification to secure their electronic applications;
- Weak adherence to the security audit recommendations by the administrations;
- Inadequacy of the legal framework to technological developments;
- Ignorance of regulatory texts relating to the approval of cryptographic means by the users who are subject to them.
VI. DIFFICULTIES AND CHALLENGES (2/2)

Challenges

- Capacity building to overcome security challenges;
- Requesting financial means from funders to reinforce hard and soft infrastructure;
- Strengthening the legal and regulatory framework;
- Carry out an approval homologation framework for cryptography means.
Thank you