

6TH INTERNATIONAL STUDENT CONFERENCE ON LOCAL SAFETY AND SECURITY



UNIVERZITET CRNE GORE
PRAVNI FAKULTET



University of Maribor

Faculty of
Criminal Justice and Security



ARRS

SLOVENIAN RESEARCH AGENCY

CRIME PREVENTION THROUGH DIGITALIZATION

Mitrić Jelena

Olević Denis

Milošević Nina

Vukanić Anđelija

Mitrić Jelena



Olević Denis



Milošević Nina



Vukanić Anđelija



MEET OUR TEAM

A large, light blue illustration of four hands of different skin tones holding a globe. The hands are positioned at the top, bottom, left, and right of the globe.

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INTRODUCTION

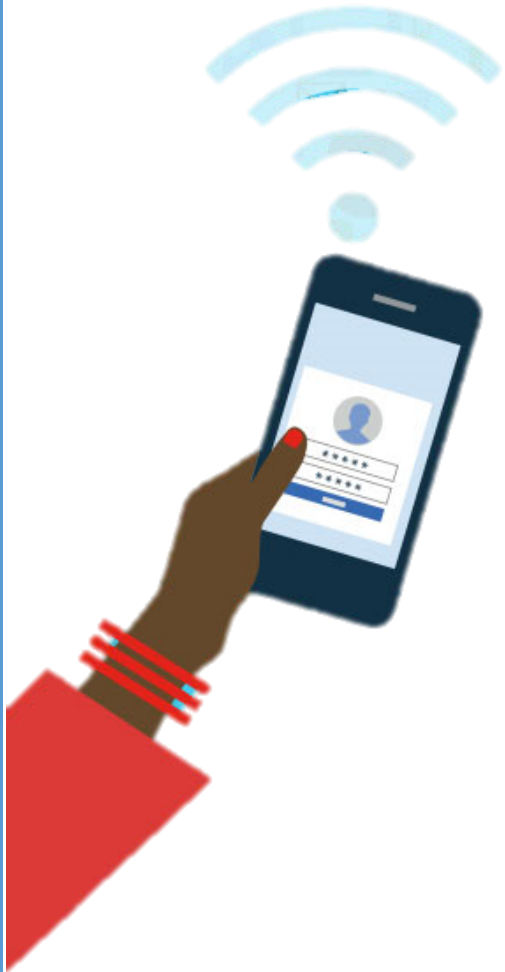
- The two basic ways of combating crime are repressive and preventive action.
- Repression measures by themselves often do not produce adequate results, so it's necessary to focus also on prevention measures.
- Special attention is paid to general ie. primary prevention measures, under which is understood the totality of social activities of a social, economic, health, educational, cultural, ideological and other character, which influence the elimination or mitigation of general social criminogenic factors of committing criminal acts.¹
- One of the modern prevention measures is digitalization.



¹ Dr Darko Dimovski – Crime prevention through digitalization, review scientific paper , Law faculty of the University of Niš, year 2021, page 228.

TYPES OF CRIME PREVENTION THROUGH DIGITALIZATION

1. Digitalization of currencies;
2. Digitalization of identities and signatures;
3. Use of smart devices;
4. Use of mobile applications;



DIGITALIZATION OF CURRENCIES

Monetary policy experts such as Peter Bofinger believe that the digitization of money can include:

- Replacing cash with electronic money;
- Replacing traditional bank deposits and banknotes with cryptocurrencies;
- Replacement of bank deposits with central bank deposits for all ("universal reserves");
- Replacing bank lending with peer-to-peer lending based on digital platforms; ²

The biggest advances in the digitalization of money have been made in terms of **replacing cash with electronic money**.



REPLACING CASH WITH ELECTRONIC MONEY

- Electronic i.e. digital money is money that is available only electronically, i.e. digital, but not in physical form.
- In the euro zone countries, cash is still used significantly more than digital money in total payments (Germany 80%, Netherlands 45%-54%).
- Reasons:
 1. 2/3 of transactions are still carried out in the amount of up to 15 euros for everyday needs, where cash is mainly used;
 2. Citizens are convinced that the infrastructure for the use of digital money is not yet fully developed;
 3. There is a habit among citizens of the euro zone to keep cash at their houses as a form of insurance - this leads to an increase in the risk of property crimes, with the possible use of violence.³



³ Dr Darko Dimovski –Crime prevention through digitalization, review scientific paper , Law faculty of the University of Niš, year 2021, page 229-230;

CRIMINAL OFFENSES WHICH REQUIRE THE USE OF CASH

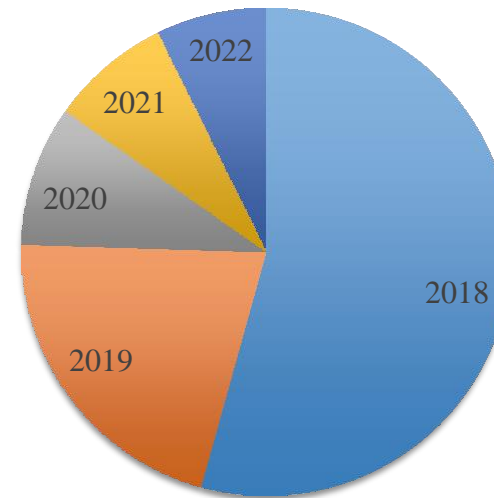
- ROBBERY
- BANDITRY
- TAX EVASION
- CORUPTION
- FINANCING OF TERRORISM



- BANDITRY

- These crimes are committed in order for the perpetrator to take money from the cash register. In case of bigger use of digital money, the perpetrators of these criminal acts would have nothing to steal, or the benefit would be **small and the risk high**. In Montenegro, the largest number of criminal acts of banditry were carried out with the threat of a gun or knife, on which occasion sports betting shops and shops, as well as post offices, were also the most frequently targeted targets.

Banditries committed in Montenegro from 1.1.2018. to 1.1.2023.



2018. – Registered 104, solved 52;
2019. – Registered 84, solved 60;
2020. – Registered 41, solved 33;
2021. – Registered 49, solved 38;
2022. – Registered 46, solved 38;

In total, 324 registered and 221 criminal offenses solved.

CRIMINAL OFFENSES WHICH REQUIRE THE USE OF CASH

During an armed robbery of the post office of Montenegro (vehicle for money transport), in Nikšić, on October 20, 2021, security guard L.J.M. was killed while defending the money of Nikšić residents. According to unofficial information, around 400,000 euros of money intended for pensions were stolen at that time.

- **TAX EVASION**

The Basic State Prosecutor's Office in Podgorica opened a criminal case against 21 legal entities with headquarters in several cities on the territory of Montenegro and responsible persons in those legal entities for the criminal offense of tax and contribution evasion, and the amount of tax evasion for the period from 2019 to 2022. year, to the detriment of the budget of Montenegro, amounts to about 374,000.00 euros.



REPLACING CASH WITH ELECTRONIC MONEY

PROS

Increasing legal certainty;
Forecasts by experts, such as Warwick, indicate that the fastest possible transition from cash to digital money would lead to a reduction in crime of at least 15% and even up to 40%.



CONS

With the increasing development of digitization and technology, ways of misusing digital money are also being found, e.g. in the prevention of terrorism, one should be careful, because terrorists have adapted to the greater use of digital money, and thus to greater control of states, by being able to collect funds from the territories they control..

DIGITALIZATION OF IDENTITIES AND SIGNATURES



Digital identity refers to information about an entity that computer systems use to represent an external agent. That agent can be a person, organization, application, or device.

Recent understandings indicate that there is no need for a connection between real and digital identity. Namely, it is possible that on platforms for buying and selling there is a digital identity that is not related to the real identity, but for other users of the platform, the digital reputation of the given user is more important than knowing the data related to citizenship.

A digital signature is a mathematical scheme for verifying the authenticity of digital messages or documents. In other words, it is a virtual fingerprint. Its basic properties are uniqueness, validity and authenticity.

It provides evidence of the origin, status and identity of a digital document. A valid digital signature gives the recipient a very strong reason to believe that the message was created by a known sender (authentication) and that the message is not changed in transit (integrity).



DIGITALIZATION OF IDENTITIES AND SIGNATURES

- IN MONTENEGRO

- With e-Identity, services that are available at counters and in the physical world are now available on the Internet, and those who want to use them do not have to be physically present to prove who they are, nor to sign or stamp a document. .
- At the beginning of summer 2020, the Ministry of Internal Affairs (MUP) issued the first eLK. Until a few days ago, as they said, about 200,000 citizens submitted a request to obtain that document. Compared to the old personal one, the electronic one is "smart".
- The new identity card, issued by the Ministry of Interior, as the public administration department said, is used for electronic identification with a high degree of security, as well as for electronic signing with a qualified electronic signature. The ETrust system of Montenegrin Telecom, as they clarified, "has a certain significant degree of security", determined in accordance with the Law on Electronic Identification and Electronic Signature.
- To use the certificates found on eLK, a reader is required. When the user wants to prove his identity on the Internet or to digitally sign documents, he will insert the ID card into the reader (which is connected to the computer) and then enter the password (PIN) and log in to the desired service.⁴



- It will lead to a decrease in financial crime committed via the Internet (it is possible to monitor the flow of money and keep the transaction safe).
- The number of hacker attacks on financial institutions is significantly lower since the existence of a central digital identity.
- Without the existence of a digital signature, a little better knowledge of photoshop is enough to forge a document. It is impossible to forge documents without being seen when there is a digital signature.
- The degree of corruption also decreases, because when a document is digitally signed, there is no need to come into contact with public officials.

⁴ www.vijesti.me, "Signature and proof of identity on the ID card and in the phone", author: Damira Kalač, may 8, 2022.

USE OF SMART DEVICES

Electronic devices that use the Internet or intranet to connect and communicate with other devices or networks - capable of computing independently and connecting to other devices via wired or wireless means to exchange data.

- AWARENESS OF THE CONTEXT
- DEVICE CONNECTION
- AUTONOMY



USE OF SMART DEVICES – IMPACT ON CRIME PREVENTION

- Stolen smart devices are connected to the Internet - no one is interested in buying them, for example: in case of theft of a mobile phone, the victim and the competent state authority are always able to easily determine the location of the phone using options such as find my phone.
- It affects the prevention of property and violent crime, and the number of crimes related to traffic safety can also be reduced - the so-called. **smart self-driving cars**.
- Example: The Tesla company, one of its goals is to reduce the number of fatal traffic accidents to zero. ⁵



THE POSSIBILITY OF MISUSE

The use of the so-called "SKY" phones for criminal activities;

Misuse of GSM telecommunications – jamming of radio waves on which the GSM network operates, eavesdropping, collection of sensitive data from mobile phones...;

In mobile networks, security issues are related to the protection of conversations, call data, prevention of phone fraud, as well as identity theft and impersonation.



USE OF MOBILE APPLICATIONS

There are different types of apps, mobile, website and PWA, Each of them has a special operation and exclusive advantages.

To combat crime, it is suggested to create special applications, e.g. Anti-Violence, which would at the same time serve to prevent further crimes of violence, but at the same time help the public prosecution to prove the commission of this criminal act. Holding your finger over the application icon for a long time automatically calls the police, and the victim's location would be continuously recorded via GPS. Also, activating it would turn on the rear and front cameras and start recording audio and video.⁶

There may be a fear of abuse in the form of activation for the purpose of reporting a criminal offense that has not been committed. This would be false reporting.



THE POSSIBILITY OF MISUSE

The Sky ECC application uses an end-to-end encryption technique that allows only the sender and recipient of the message to read the content, according to the specialized website [Wired](#).

Sky differs from other applications of a similar purpose because, in addition to the software, users also get a device that is safe to use - iPhone, Blackberry and Google Pixel phones.

Anyone who wants to have this application on their smartphone can buy a license for three, six months or one year and it will cost them between 600 and 2,200 euros, according to the [Sky ECC website](#).

If the user wants to get a phone with the application, checked and formatted in this company, the total cost would be between 800 and 3360 euros, depending on the phone model and the length of the license.

In Serbia, it came into the spotlight after the arrest of a group gathered around Veljko Belivuk and Marko Miljković.



IN MONTENEGRO



Several criminal groups in Montenegro were discovered thanks to Europol and the police of Western countries who intercepted, decoded and forwarded to Montenegrin investigators the encrypted conversations of criminal groups via encrypted phones and applications, such as SKY ECC application.

The Montenegrin police confirmed that with the help of the materials they got from France, they identified the members of the group that was arrested in the case of V.M., her son and ten other members of the group.



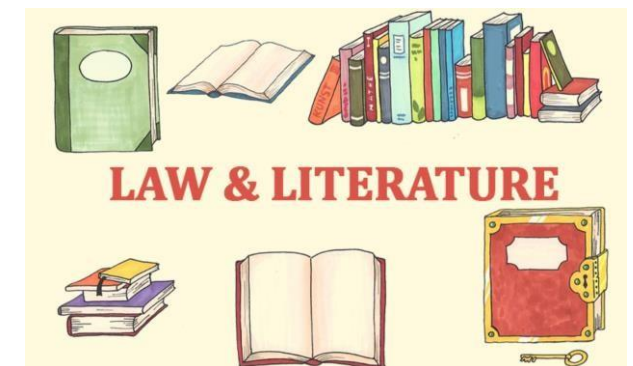
Conclusion

- It can be said that only in the future digitalization will reach its full potential in terms of crime prevention. Although the greatest impact will be on the prevention of property crime, a reduction in violent crime and traffic crimes can also be expected.
- Also, there will be a saving of funds necessary for the functioning of the justice system, but also savings in terms of insurance due to a lower number of traffic accidents.
- However, it should be pointed out that crime and criminals are characterized by the ability to adapt to changes in society, therefore they will move from the real world to the digital world. There may be an increase in computer crime, so we already have examples of digital identity theft.
- Significantly greater cooperation between countries is needed, because it is more difficult to identify the perpetrator of computer crime.



LITERATURE

- Dr Darko Dimovski – Crime prevention through digitalization, review scientific paper , Law faculty of the University of Niš, year 2021. ;
- The official website of the portal Vijesti – www.vijesti.me, "Signature and proof of identity on the ID card and in the phone", author: Damira Kalač, may 8, 2022;
- The official website of the portal Vijesti – www.vijesti.me, "Robberies in Montenegro - with weapons most often in post offices and betting shops", author: Jelena Jovanović february 11, 2023;
- The official website of the radio Free Europe – www.slobodnaevropa.org, "The SKY application is fatal for criminal groups in Montenegro", author: Srđan Janković, april 21, 2022.



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THANK YOU

for your attention