

Art Crime and Preventive Measures for Museums, Churches and Sacred Objects

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Purpose:

The purpose of the paper is to present art crime and preventive measures that reduce crime involving art in museums, churches and sacred objects.

Methods:

Art crime and preventive measures are analysed by applying a descriptive method and literature review. Statistical data are considered to present the scale of art crime in Europe.

Findings:

Art crime has been present in society for millennia. Statistics show art thefts from private buildings, galleries, churches and sacred objects prevail. Thefts from museums attract the greatest media attention. The perpetrators are usually unaware of the value of the stolen art. The biggest difficulty is the hidden nature of crime involving art because many cases go unreported, especially when occurring in museums. The reason is that it affects the reputation of museums. In particular, they do not the public to know they have weak preventive measures. Safeguarding art works in museums and churches as well as sacred objects is a very demanding and responsible task. Artworks need to be kept simultaneously safe and accessible to visitors. A combination of security measures is essential; physical and technical protection as well as forensic marking. In the future, greater attention should be paid to raising public awareness of the value of artworks for society.

Originality/Value:

The paper describes the preventive measures that should be applied to reduce and prevent art crime in museums and churches and concerning sacred objects. The owners of museums, security services and archival institutions can use the proposed measures to minimise such art crime.

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Keywords: art crime, prevention, museums, churches, sacred objects

Preventivni ukrepi na področju kriminalitete zoper umetnine v muzejih, cerkvah in sakralnih objektih

Namen prispevka:

Namen prispevka je predstaviti kriminaliteto zoper umetnine in preventivne ukrepe, ki pripomorejo k zmanjševanju kaznivih dejanj zoper umetnine v muzejih, cerkvah in sakralnih objektih.

Metode:

Za pripravo prispevka smo uporabili deskriptivno metodo in metodo analize dokumentov. Z analizo statističnih podatkov smo predstavili kako številčna je kriminaliteta zoper umetnine v Evropi.

Ugotovitve:

Kriminaliteta zoper umetnine je v družbi prisotna že tisočletja. Statistični podatki kažejo, da prevladujejo tatvine umetnin iz zasebnih objektov, galerij, cerkva in sakralnih objektov. Medijsko najbolj izpostavljeni so primeri tatvin iz muzejev. Storilci se običajno ne zavedajo vrednosti umetnine, ki so si jo protipravno prilastili. Po mnenju strokovnjakov je veliko kaznivih dejanj zoper umetnine, predvsem tistih, ki so storjena v muzejih, neprijavljenih. Razlog je v tem, da si muzeji ne želijo slabe reklame, hkrati pa ne želijo javnosti pokazati, da imajo slabe zaščitne ukrepe. Varovanje umetnin v muzejih, cerkvah in sakralnih objektih je zelo zahtevna in odgovorna naloga, saj je potrebno umetnine hraniti varno, hkrati pa morajo biti dostopne obiskovalcem. Nujno je potrebna kombinacija varnostnih ukrepov; fizičnega in tehničnega varovanja ter forenzičnega označevanja. V prihodnje je treba veliko pozornosti nameniti tudi ozaveščanju prebivalstva o pomenu umetnin za družbo.

Izvirnost/pomembnost prispevka:

Prispevek predstavi preventivne ukrepe katere je potrebno uporabiti, da bi zmanjšali in preprečili izvedbo kaznivih dejanj zoper umetnine v muzejih, cerkvah in sakralnih objektih. Podatki bodo v pomoč lastnikom muzejev, varnostnim službam in nadškofijam, da bi s predlaganimi ukrepi zmanjšali kriminaliteto zoper umetnine.

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Ključne besede: kriminaliteta zoper umetnine, preprečevanje, muzeji, cerkve, sakralni objekti

1 INTRODUCTION

Art crime has a very long tradition, but has become even more attractive in the past decades due to the high financial gains and low rate of successful investigations. According to Hollington (2014), art crime generates proceeds ranging from USD 2 to 6 billion per year, most of which is used to support international organised crime groups. Wylly (2014) states that Bonnie Magness-Gardiner, retired director of the FBI Art Theft Programme, estimated the annual loss incurred due to art crime at USD 8 billion a year.

Art crimes include various types of criminal offences; theft, forgery, vandalism, negligence, fraud, unauthorised imports and exports of works of art, destruction of artworks as a result of war, and others. Data from the Slovenian police (Ministrstvo za notranje zadeve, Policija, 2016) show that, on average, 100 art crimes occur every year in Slovenia. But art crime is an even bigger problem in other countries. Mustajbegović (2015) states that 30,000 crimes involving art happen in Italy annually. The sheer scale of art crimes forces the police in some

countries to establish special departments that specialise solely in this type of crime. Independent organisations are also involved in investigating art crime. They have their own Internet webpages where they publish pictures and details of artworks that are the subject of criminal activity. Europol (2017, 2018) reported two successful police operations (Athena, Pandora and Pandora II) in 2017 that saw more than 41,000 artworks being seized across the world. This was a result of coordinated law enforcement actions. The artworks were the subject of illicit trafficking, theft, looting and Internet sales.

Statistical data show (Dobovšek, 2010; Kuhar, 2017; Wittman, 2010; Wylly, 2014) that art theft from private premises, galleries, churches and sacred objects dominates. The perpetrators are usually unaware of the value of the art they have stolen or damaged. Thefts from museums attract the greatest media attention because of the high value of the works involved. According to Dobovšek (2007), many art crimes, especially those committed in museums, go unreported. The reason is that museums do not want to acquire a poor reputation or to show the public they have weak security.

Safeguarding art works in museums and churches and sacred objects themselves is a very demanding and responsible task as they simultaneously need to be kept safe and accessible to visitors. The key elements are to reduce opportunities to commit a crime, to make the risk of such crime greater, and to reduce the proceeds of crime. A combination of different security measures is essential; both physical and technical protection, internal and external video surveillance, as well as forensic marking. It is also important to raise public awareness of the value of artworks for society.

For the purpose of this paper, art crime and preventive measures were analysed by applying a descriptive method and literature review. Statistical data were considered to present the scale of art crime in Europe.

In the future, considerable attention should be paid to security, preventive measures, raising awareness of the population and conducting research in the field of art. This is the only way to reduce the scale of the problem. The paper aims to present art crime, especially where it involves museums, churches and sacred objects. The emphasis is given to preventive measures that help to reduce art crime in museums and churches and concerning sacred objects. The findings can be useful for police and art owners, especially museum management, security services and leaders of archdioceses who should pay more attention to the security of the artworks in their care. Artworks are a mirror of the past. They must be protected, not only because of their monetary value but also due to their significance for humanity.

2 ART CRIME

Art crime has existed for millennia. Various types of art crime have emerged over the years. O'Keefe (2014), Conklin (1994), Durney (2011) and Hufnagel (2015) include theft, forgery, smuggling and illegal exports of artworks within the concept of art crime. According to O'Keefe (2014), it is impossible to determine the true extent of art crime since statistics are insufficient indicators given that many of such crimes are unreported.

Thefts, robberies and trade in stolen artworks have become an international problem. Interpol has been trying to combat it since 1947 by connecting police units from around the world. But variations in the concept of art and countries' different laws are the primary problems investigators face in their work. Another problem is that art theft is often recorded as property crime and art forgeries as fraud. This leads to doubt about the actual number of art crimes annually reported.

The proceeds of art crime can be extremely large, but the consequences for human history cannot be measured in cash alone. According to Interpol (Koldehoff & Koldehoff, 2004), trading in stolen artwork does not lag much behind the trade in illicit drugs and human smuggling. Europol (2005) noted that trade in artworks and cultural objects is an area where organised crime has been present for years and its influence continues to grow.

According to some reports, the loss caused by art crime reaches billions of US dollars per year. Hollington (2014) estimated that USD 2 to 6 billion is earned through art crime yearly. The retired director of the FBI Art Theft Programme Bonnie Magness-Gardiner (Wylly, 2014) stated the estimated annual loss incurred by art crime is USD 8 billion. In addition, Wylly (2014) believed this is a very low estimate as we must be aware that the statistics include only one-third of the 192 United Nations member states.

The most common form of art crime is theft. Theft of art works from churches and profane sacred objects dominate. This could be reduced by taking preventive measures and raising public awareness of the value of artworks for a nation's history. Art theft occurs in museums, galleries and private collections where, according to Tjihuis (2006) and Wylly (2014), they are even more frequent due to poor protection. Typically, the offenders just break a door open or smash the glass of a window. According to the literature review, occasional art thefts are very common. Kursar Trček (2002) calls these situational thefts. For example, a tourist who did not initially plan to commit any theft takes a piece of an artwork or even the whole item as a souvenir simply because the art was poorly protected.

It is hard to sell stolen art immediately after it is taken. Perpetrators usually wait some time before the artwork appears on the market. According to Durney (2009), the price of stolen art on the black market is just 7% to 10% of the actual market value. This makes the basic price of the artwork even more important. Offenders usually do not sell a stolen artwork by a famous artist. They use it as payment within a criminal organisation. Artworks may be exchanged for drugs or weapons or given to compensate for other services.

It is very difficult to obtain reliable data about the number of stolen artworks and it is unlikely the true scale will ever be known. Country statistics about art crime are often based on property crime and do not provide accurate information about stolen artworks (Interpol etc.).

According to Belaj (2010), in 2001 Interpol published a list of five countries where the highest numbers of artworks are stolen. Topping the list was Italy where approximately 22,000 artworks were stolen every year. Second place was taken by the Czech Republic with 5,300 stolen art items a year, followed by Russia with 4,400 art thefts, Switzerland with 3,100 art thefts and Turkey with 1,700 art thefts a year. More recent data given by Mustajbegović (2015) show that in Italy

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approximately 30,000 art thefts occur annually. Russia is in second place where some 2,000 art thefts happen per year. The scale of art crimes in 20 EU countries is presented in Table 1.

Table 1:
Number of art crimes in 20 EU countries between 2007 and 2010

Country	Year				Total
	2007	2008	2009	2010	
Austria	131	125	113	n.d.*	369
Bulgaria	206	164	204	191	765
Belgium	229	223	252	175	879
Cyprus	8	7	10	14	39
Czech Republic	370	639	1527	954	3490
Denmark	57	62	50	82	251
Estonia	8	9	8	7	32
France	2,714	2,223	1,751	1,442	8,130
Germany	2,003	2,265	2,055	n. d.	6,323
Greece	75	87	72	91	325
Italy	1,085	1,031	882	817	3,815
Latvia	46	94	79	100	319
Lithuania	15	13	14	12	54
Malta	9	8	9	6	32
Netherlands	n. d.	n. d.	n. d.	831	831
Poland	1,132	776	814	804	3526
Portugal	164	233	200	159	756
Slovakia	24	25	26	29	104
Slovenia	28	55	42	66	191
Spain	443	432	489	543	1907
Total	8,747	8,471	8,597	6,323	32,138

*n. d. = no data

Source: Block (2012)

According to Slovenian Police data (Ministrstvo za notranje zadeve, Policija, 2016), 94 art crimes were committed in Slovenia in 2007, 145 in 2008, 92 in 2009 and 81 in 2010. Considering that the data for the Republic of Slovenia shown in Table 1 are not the same as the police's statistical data, one can be suspicious of the credibility of the data presented for all countries. Nevertheless, they can give us an approximate picture of the scale of art crimes in other EU countries. The percentage share of recovered stolen artworks is extremely low. A potentially easier way to find a stolen painting, which has fallen into the hands of a criminal organisation, is to hire a private investigator.

Art theft from churches and private collections prevails. The true scale will never be known to the public as only thefts of art works by famous artists are typically reported. Art crimes committed in museums and churches and involving sacred objects are presented below.

2.1 Art Crime in Museums

Thefts from museums attract the widest media attention. The reason is that the value of the items stolen from museums is higher than for items stolen from other places. Protection plays an important role in thwarting art theft. According to Dobovšek (2009), thefts from museums are mostly prepared in advance, offenders are only interested in a specific item that already has a buyer waiting. They have information about the location of the art work and how it is protected.

Art is often stolen in broad daylight when a museum is full of visitors, but nobody notices anything. The reason for this state of affairs is poor protection, both technical and physical. Offenders disappear together with the stolen art item in a very quick time.

Interpol (Wylly, 2014) states that 11% of all art theft occurs in museums. According to Wittman (2010), between 1990 and 2005, thieves stole art works from museums with a total value of over USD 1 billion.

Samardžić (in press) states that in many cases the offenders of an art crime in museums are employees. They have access to the item concerned and inside information that helps them commit the crime. According to Wittman (2010), a good example of the theft of artworks by an employee is what happened in the Walters Art Museum in Baltimore, USA. A security guard on the night shift stole 145 artworks over eight months. Another case occurred in the Hermitage Museum (Saint Petersburg) where the curator took artworks valued at USD 5 million over 15 years.

One of the best known art thefts in history (Charney, 2007) is the theft of the *Mona Lisa* from the Paris Louvre Museum in 1911. The theft was committed by Vincenzo Peruggia. Hidden in the museum's warehouse, he changed his clothes. During the night when no one was in the museum, he took the picture off the wall and wrapped it in his smock, and simply walked out of the museum with it in the morning. The security guard let him out, thinking he was a worker who had accidentally stayed at the museum overnight. It was 24 hours before anyone even noticed the *Mona Lisa* was missing. The Louvre had over 400 rooms but only 200 guards and even fewer on duty through the night. The museum basically had no alarms. The painting was recovered 28 months later.

A prospective offender may not be deterred by the presence of an alarm in a museum. Burglars have often triggered an alarm, but security guards do not necessarily pay much attention to it because they believe it is a false alarm. An example of this is a theft in the Art History Museum in Vienna in 2003. This crime entailed precisely that combination of circumstances. Security guards there had regularly encountered false alarms. On 11 May, the museum's most famous sculpture Saltcellar of Francis I, an extraordinary gold-plated saltcellar and one of the world's greatest Renaissance artefacts was stolen, yet they did not respond. When the alarm was triggered, the guards thought it was a false alarm and switched it off. The thief had 54 seconds available to carry out the theft. The saltcellar, whose value was estimated at EUR 60 million, was found in January 2006 when the offender was identified (Traynor, 2003).

According to Lawler (n. d.), the biggest case of theft, looting and destruction of art works in history was committed in the National Museum of Iraq in 2003. It was looted during and after the 2003 invasion of Iraq. The Iraq Museum contained precious relics from the Mesopotamian, Babylonian and Persian civilisations. International efforts led to many of the stolen artefacts being returned. After remaining closed for many years while being refurbished and being rarely open for public viewing, the museum was officially reopened in February 2015.

Museums have seen better protection against theft in recent years. This has led to a rise in the number of armed robberies which museums find difficult to protect. One of the biggest robberies and a good example of organised crime being involved in art crime in Europe took place in Switzerland in 2008 when four paintings by world-known artists – a Cézanne, a Degas, a van Gogh and a Monet – were stolen. One of these was the painting *Boy in a red vest* by Paul Cezanne whose price on the art market was EUR 100 million. According to witnesses, the robbery was carried out in just three minutes (Marković-Subota, 2012). The rapidly occurring robbery and explosion that neutralised both staff and visitors show the robbery was well planned. Some possible preventive measures against robbery are presented in the next chapter.

The third form of art crime occurring in museums is vandalism, including damage to and the destruction of artworks. Vandals use different tools to damage an art item such as a pen, paint, fire, knife, explosives, firearms and other. Rude and brutish behaviour such as sticking on chewing gum, spitting and marking certain parts of an artwork is considered a lighter form of vandalism. In 1911, someone tried to cut the Rembrandt painting *The Night Watch* with a knife but could not cut through the thick varnish applied to the painting. After this event, the painting was restored. However, in 1975 the painting was again cut with a knife in dozens of zigzag lines. The offender was wrestled to the ground by the guards. It took six months to restore the painting and traces of the cut marks still remain. The third attack involving the same painting was in 1990 when a man threw acid on the painting. Museum guards seized the attacker and handed him over to the police. The guards managed to quickly dilute it with water so that it only penetrated the varnish layer, and the painting was restored again (Puchko, 2015).

One of the possibilities of preventive action is to educate children and youth. We need to imbue in them a cultural attitude to art because young people are often the proponents of vandalism. It is also necessary to raise awareness among older people of the importance of art and cultural heritage.

2.2 Art Crime in Churches and Involving Sacred Objects

Churches and sacred objects are often considered a special and safe place, but they have become the main targets for criminals in the last few years. Without appropriate security measures, a church or sacred object makes an easy target for theft or vandalism.

According to Dobovšek and Samardžić (2012), with most museums having improved their security systems, art theft from smaller, unsecured churches has

increased. Hundreds of churches and sacred objects across Europe are vulnerable to thieves. Thefts of works of art from religious and secular-sacred buildings are the predominant type of crime and could be prevented by adopting preventive measures and raising public awareness of the value of such works of art for a nation's history.

Artworks and objects from churches and sacred objects themselves are made of expensive materials and richly decorated. Paintings and frescoes have a historical value and are thus attractive targets for offenders.

Statues, decorative objects, liturgical items, gold and silver icons and relics stolen from churches and monasteries in Cyprus, Greece, Russia, Armenia, Serbia and elsewhere are sold for several hundred to hundreds of thousands of euros, especially in the USA and Western Europe.

Besides art theft, vandalism and damage to art from churches and sacred buildings is widespread. The motives for this type of crime vary and may be religious, social or political. The perpetrators are often minors who destroy artworks simply because they have easy access to them and because the items are not protected.

With the cooperation of the Ministry of Culture, the Slovenian Police has already made some recommendations to the bishop's conference. They wanted to increase awareness that greater attention has to be paid to chapels and churches, including locking them up regularly. It is understandable that a church is a temple of God and must be constantly open. But it is only with regular locking and security measures that art crime can be reduced. Some churches already have video surveillance, are more often locked, grates have been installed over ground-floor windows, and more secure doors are being used.

According to Kuhar (2017), the Slovenian Ministry of Culture has already been in contact with church dignitaries in the past and informed them of the problem of art theft from churches and sacred objects. It is essential to talk with church dignitaries and explain to them why it is essential to increase control over artworks in churches and sacred objects.

It is recommended that churches conduct an inventory of all art items located in churches, sacred objects and other church premises. They started taking an inventory in the past, but it was not finished. The biggest fear of church dignitaries is that the inventory would reveal information about church assets. Yet churches must be aware that such an inventory along with the forensic marking of art items are just preventive measures and the data will not be publicised. It is also important to increase the level of control and video surveillance over churches and sacred objects and regularly check their status. This is the only way of reducing art crimes.

3 ART CRIME AND PREVENTION MEASURES

The art of museum security is no less profound than some of the masterpieces hanging in the spaces that require protection. Analyses of art theft show that the places where the art item was located were relatively easily accessible and uncontrolled during the crime.

The most typical form of preventive action is situational prevention. Meško (2002) presented Clarke's definition that situational prevention is where these measures are directed at highly specific forms of crime, involving the management, design, or manipulation of the immediate environment in a systematic and permanent way.

Situational crime prevention uses techniques that focus on reducing the opportunity to commit a crime. Some techniques here include making the crime more difficult, increasing the risk entailed in crime, and reducing the proceeds of crime (Clarke, 1997). Situational prevention is important when talking about preventing art crime, especially the prevention of theft, burglary and vandalism.

Meško (1996) proposed the following main measures of situational prevention: measures that force the perpetrator to invest more effort to commit a crime; measures that increase the risk entailed in a crime and measures that reduce the potential rewards for committing an offence.

It is necessary to combine several preventive measures; otherwise, the effect of preventive activity cannot be increased. In addition, situational prevention implies greater self-protection by citizens regarding their property, while the responsibility of business entities is linked to the various possibilities of committing a crime.

Protecting artworks in museums and churches and sacred objects themselves is a very demanding and responsible task. It is essential to keep art items protected, while at the same time allowing visitors to encounter masterpieces. This requires a lot of work, planning and some new technology, as presented below.

3.1 Physical Security

In the past, only physical protection was provided to protect people, items and objects. It still plays an important role in protecting artworks. Privately employed security guards are responsible for ensuring the safety and security of employees, visitors and artworks. It is necessary to develop a physical protection plan for each item individually. The personnel who provide physical security must be familiar with the procedures (Golob, 1997).

Security personnel has to be qualified, trained, interested in the work and proactive. In addition, it is necessary to have sufficiently motivated security guards. If a crime occurs, they have to react as soon as possible. As we saw in the case of Vienna, thieves do not need much time to steal a piece of art. They only need 54 seconds to steal art worth EUR 60 million.

Security guards must pay as much attention to fire exits as they do to the art itself. They also communicate with the security control centre, which dispatches staff to suspicious situations. In addition, several other preventive measures are possible: post the appropriate number of guards to detect and deter potential attacks; limit the number of people who may visit at any one time and urge visitors to keep moving, enabling the guards to maintain an overview of the situation.

Many examples from practice (Marković-Subota, 2009; Marn, 2007) show that man is the weakest link in any security system. Lack of interest, bribery and reduced attention at work are only some of the problems encountered with

security personnel. It is necessary to combine technical and physical protection because having in place a combination of different security measures proves to be the most effective.

3.2 Technical Protection

Technical security systems are:

individual or functionally connected equipment and mechanical devices for protection, anti-theft and anti-burglary devices, devices for supervision of entry, exit or movement, screening of persons, transport means, cargo or baggage, prevention of forcible entry, automatic detection of unauthorised presence and alarming, transmission of alarm messages and equipment for processing and archiving such messages (video and audio surveillance, security alarms, sensors and motion detectors, alarm surveillance systems, cameras and sensors), electric, electromagnetic, magnetic or biometric devices for supervision of entry and other systems and devices intended for providing security pursuant to this Act. Technical security systems pursuant to this Act shall include other systems inseparably connected with technical security systems pursuant to this Act, while interference with these systems shall mean interference with technical security systems pursuant to this Act (fire protection, alarming in case of explosive and other gases, social alarms, systems for the detection of explosive and poisonous substances, gases and fumes, security strong-boxes, security doors, locks, vaults, and safes). Devices for supervising stock and inventory and other devices and systems not intended for providing security in accordance with this Act shall not be considered technical security systems (Zakon o zasebnem varovanju [Private Security Act], 2011).

It is necessary to employ some technical protection such as movement sensors and picture-hanging systems sensitive to a particular sequence of movements. The art item concerned should be attached to a base (technical security that disables the unauthorised physical removal of the item and with a silent alarm, which is connected to the control room). It is recommended to increase the distance between visitors and the art, prevent any touching and to use magnetic contacts for doors and stair gates that, when a door is opened or a silent alarm is triggered transmits relevant images to the control room.

An organisation responsible for safeguarding art items does not need a lot of money for such actions. A statue can be connected with a steel mesh to a base. A sensor should be located underneath to detect vibrations. This kind of system cannot be detected by thieves as the base is generally hollow. If the statue is lifted, the steel mesh, which cannot be cut, holds the statue in place and triggers an alarm. The cost of such a measure is around EUR 50 (Mazi, 2009).

Potokar and Bernik (2014) state that technical protection is today an indispensable tool in protecting an item's value. To help to secure premises, mechanical protection can be used, such as fencing, security gates, multipoint locks, bulletproof window panes, bars on windows and barriers that restrict access to the art. One recommended measure for securing art works is to place

a glass wall in front of a painting. This measure is unsuitable if a painting is too big. Another critical issue is the distance between the art and the visitors. The distance should be increased and barriers erected to avoid touching and attacks using sharp objects.

CCTV equipped with video content analysis technology should be used to monitor the public. In this way, if a person crosses a defined line an alarm is automatically triggered (usually an audible signal to alert both visitors and the guard). Use of CCTV alone has little effect on the response time. The control room is an important part of the security regime because it enables control of the action outside and within the building with the help of external and internal video surveillance.

Wireless protection of artwork

Over time and with the development of techniques, various ways of protecting buildings and arts have emerged. As mentioned, one of the most basic and simple ways for technically protecting art items is to tie them down with steel mesh. Companies have been improving such protection in recent years. Art Guard (n. d.) has been one of the leading companies in the field of art protection in the last decade. It provides innovative and high-quality ways to protect artwork against theft. Thieves who steal art items from museums and galleries have changed their modus operandi. Art theft is often committed during opening hours when the museum or gallery is filled with visitors. Due to the heavy physical protection of art items during opening hours, a device called a “safe hook” was invented, which triggers an alarm if an artwork is removed from the hook. The device is small, suitable for installation on art hanging from the ceiling and is independent of the power supply.

The second invention is the wireless magnetic protection of artwork. It is suitable for artworks that stand or hang on walls. A magnet is attached to the artwork and a frequency transmitter is mounted on the wall or floor to detect any displacement of the magnet on the artwork. In this case, when the alarm is triggered it can be heard by everyone in the building (Art Guard, n. d.). Due to its reliability, ease of use, low costs, and adaptability to the size of the artwork and the ways of exhibiting, such systems provide one of the most appropriate preventive measures against art theft. Such systems are suitable for museums, galleries, private collections, churches and sacred objects, namely the places that are most often targeted by thieves in recent times.

3.3 Forensic Marking

The most recent method of preventing art theft is forensic marking. Forensic marking is a method of marking valuable items with artificial ‘DNA’. It is almost impossible to remove the forensic marking from the art without damaging it. Any damage to the art could reduce its value in further resale on the black market. This makes such art items less attractive to thieves. In addition, it not only reduces crime and art theft but also allows easy identification of ownership and enables police to link criminals to the crime scene (Kuhar, 2015).

One of the most advanced forensic marking systems for reducing the scale of offences is *SelectaDNA*. It combines its unique 'DNA' coding with microdot technology. It serves as indisputable evidence of ownership in court proceedings, links the perpetrators with the crime scene, and enables the police to establish a link between the perpetrator and the crime scene.

An increasing number of European countries use *SelectaDNA* in various preventive activities. Moreover, ever more insurance companies around the world recommend forensic marking to their policyholders as the best preventive measure to reduce the number of thefts, burglaries and robberies. Some insurance companies even require assets to be forensically marked as a condition for obtaining insurance. This measure is especially recommended for art owners. According to the British police (*SelectaDNA*, n. d.), forensic marking reduced thefts, burglaries and robberies in some cases by up to 83%.

Offenders are aware that 'DNA' is the most powerful weapon available to the police for convicting criminals. Therefore, the 'DNA fear factor' is highly understood and acts as a considerable deterrent. Offenders view items marked with *SelectaDNA* as constituting too high a risk and are further put off from stealing them as they have little or no resale value. Using *SelectaDNA* to mark property is the ultimate theft and burglary deterrent.

When we want to protect art items that are located outside, we can use *SelectaDNA* grease. It is specially designed to protect outdoor materials and its structure makes it more appropriate for art items, which are exposed to weather changes. Once a thief is exposed to the grease, it transfers onto his/her hands and clothes. The offender is then forensically linked to the crime scene.

A burglary can be prevented by using a *SelectaDNA* intruder spray. It contains a solution with a UV tracer and a unique 'DNA' code, which irrefutably links the offender to the scene of the crime. Police can take traces of the 'DNA' marker from the skin, hair and clothing of the offender, and send them away for forensic analysis. The solution can remain on the criminal for weeks, clinging to fibres and settling in creases of the skin. The DNA Spray can be armed with a panic button and linked to an existing intruder alarm system (*SelectaDNA*, n. d.).

3.4 Security Smoke Systems

Security Smoke Systems are technical devices whose operation obscures the vision of intruders and makes it practically impossible for them to commit a crime. By activating the system in the room, the device produces smoke that due to the high temperature instantly evaporates, creating a hot, extremely dense vapour. It cools in an instant and condenses to form a thick fog that looks like dense smoke (*Security Smoke Manual*, 2013). In the event of a break-in, the system fills the room with safe, harmless smoke that debilitates and disorients the intruders. Security Smoke Systems are guaranteed to leave no residue behind after deployment. People can go straight back to work without any hold-ups, mess or fuss.

This type of security system has three essential functions: it represents a physical barrier against thieves, burglars and robbers that cannot be forcibly removed (smoke cannot be broken with a tool or weapon); in a way, it works

to deter thieves from entering the building; the sudden release of thick smoke debilitates and disorients the intruder. Even if thieves, burglars or robbers enter a room, they do not commit a crime because they cannot see the items and leave the room as quickly as possible (Security Smoke Manual, 2013).

The use of security smoke systems is recommended in conjunction with existing security systems since that effectively reduces the loss caused by rapidly performed burglaries and robberies. They represent an effective, innovative, health- and object-friendly way of protecting property and people, which is even more important in protecting artworks as it does not damage or ruin them.

The best preventive measure is a combination of the various security measures were mentioned above. Which will be used depends on the individual institution's financial capacity and past experience. Further, we have to raise people's awareness of the importance of art for a nation's culture and how important it is to retain artworks for future generations.

Unfortunately, artworks cannot be given complete protection. But effective protection and a combination of preventive measures can limit a significant proportion of art crime and reduce the loss incurred by the theft, robbery, burglary or destruction of artwork. In the future, we should consider securing items of art with the help of air or mobile control systems like drones, multi-sensors and multi-directional cameras for controlling external spaces where art and cultural heritage is located and where the common prevention measures are unlikely to be successful.

4 CONCLUSION

According to the literature and statistics on art crime, the theft of art prevails. Burglaries in premises that are poorly protected and uncontrolled, such as churches and sacred objects, are also very common. Offenders exploit defective self-protection regimes, shortcomings in security and obsolescent security systems. That is an important sign that security strategies need to be improved. The mentioned security and preventive measures have already demonstrated it is possible to reduce the number of offences involving artworks in practice at a small cost.

Due to the growing problem of art crime, the international community has launched many activities to limit illicit trafficking in and criminal offences involving arts. A number of international legal acts have been adopted which should encourage the signatory states to establish appropriate mechanisms to combat this type of crime. The excellent cooperation between police and international organisations in both the repressive and preventive fields is the key to success. Collaboration is particularly important in today's society where, due to the rapid exchange of information and knowledge, people and goods, cultures and values and, finally, also due to the growing social differences, new types of crime are emerging.

Moreover, another problem of art crime is that the public and government representatives are un aware of the seriousness of such offences and their consequences. As a result, they do not pay much attention to art crime. In the

future, considerable effort will be needed to raise people's awareness of the problems brought by art crime. It is anticipated that in the future art crime will continue to be part of society due to the enormous profits, inadequate security, low level of successful investigation and the mild penalties. The true value of all artworks that are stolen will never be known. Experts estimate that around USD 2 to 6 billion is earned through art crime every year, but the loss caused to society and for future generations is intangible.

Arts are a mirror of our past and must be protected, not simply because of their monetary value but also because of their importance for humanity. We should be aware that artworks represent culture, values and traditions. Cultural heritage means a common bond, our community affiliation. It represents both our history and our identity. It is our bridge to the past, which is essential for our present and future.

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