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CONCEPT FOR IMPROVING THE SECURITY OF RELIGIOUS SITES

Abstract

This article presents a concept for improving security at places of worship based on research carried out as part of the ProSPeReS project, along with a review of the topical literature. It presents the current state of security at such places and selected threats which such 'soft' targets may be exposed to. Places of worship are considered particularly vulnerable to attacks due to their accessibility and the fact that limited security measures are usually in place.

The research was aimed at enhancing protection of places of worship by proposing potential opportunities for organisational changes in preventing, detecting and responding to terrorist attempts. To this end, a bow-tie analysis of a reference scenario at a hypothetical place of worship was applied, adapting the *Vulnerability Assessment Tool* methodology for this purpose. The background knowledge to the research constituted the results of a literature review, study visits to places of worship and knowledge of public security experts.

The results of research in the form of the proposed method of threat analysis and vulnerability of religious sites and religious gatherings, as well as potential solutions to enhance the protection of these places in the context of the considered reference scenario, which translate into increased readiness for a potential terrorist event.

Keywords: security, places of worship, terrorism, assembly security, risk, hazard

KONCEPCJA POPRAWY BEZPIECZEŃSTWA MIEJSC KULTU RELIGIJNEGO

Abstrakt

Artykuł przedstawia koncepcję poprawy bezpieczeństwa w miejscach kultu religijnego na podstawie przeprowadzonych badań w ramach projektu ProSPeReS oraz przeglądu literatury przedmiotu. Autorzy odnieśli się do aktualnego stanu zabezpieczeń w takich miejscach oraz wskazali na wybrane zagrożenia, na jakie narażone mogą być tego typu „miękkie” cele. Miejsca kultu reli-

gijnego uważane są za szczególnie podatne na ataki noszące znamiona zdarzeń o charakterze terrorystycznym ze względu na ich dostępność i fakt, że zazwyczaj stosowane są w nich ograniczone środki bezpieczeństwa.

Badania miały na celu zwiększenie ochrony miejsc kultu poprzez zaproponowanie potencjalnych możliwości wprowadzenia zmian organizacyjnych w zakresie zapobiegania, wykrywania i reagowania na potencjalne próby zamachów terrorystycznych. W tym celu zastosowano analizę drzew połączonych dla referencyjnego scenariusza w hipotetycznym miejscu kultu religijnego, adaptując na te potrzeby metodykę *Vulnerable Assessment Tool*. Wkład informacyjny do badań stanowiły wyniki przeglądu literatury, wizyt studyjnych w miejscach kultu oraz wiedza ekspertów do spraw bezpieczeństwa publicznego.

Wyniki badań w postaci proponowanej metody analizy zagrożeń oraz podatności obiektów sakralnych i zgromadzeń religijnych, a także zaproponowane rozwiązania służące zwiększeniu ochrony tych miejsc w kontekście rozważanego scenariusza przekładają się na zwiększenie gotowości na potencjalne zdarzenia o charakterze terrorystycznym.

Słowa kluczowe: bezpieczeństwo, miejsca kultu, terroryzm, bezpieczeństwo zgromadzeń, ryzyko, zagrożenie

1. Introduction

Security is a basic human value. Terrorism is currently perceived as one of the key world-wide problems. Hence, for many European countries counteracting the development of terrorist organizations and preparing societies for potential dangers has become a priority in this respect [1]. The notion “terrorism” is defined as an action aimed at creating terror and fear. However, the definition of this word might be much broader. Moreover, there is a wide variety of these definitions available in literature [2].

Enforcing obedience to authorities and society through intimidation and aggression has been used in a documented way since the first century BC, but despite attempts at elimination we can still see organised terrorist criminal activity worldwide [3]. For many years, security-minded services failed to eliminate the problem, and perpetrators keep changing their tactics. Surprisingly, the spectrum of *modus-operandi* that might be used by them is very wide-ranging, starting from primitive measures like using inconspicuous knives by loan wolves, up to the deployment of modern drones for a terrorist attack purposes. Based on the Europol report a conclusion may be drawn that there was a number of terrorist attacks around the world in 2020 that have been carried out in places of worship. Among the most serious ones that are worthy of mentioning were shootings in mosques in Christchurch (New Zealand) and in Baerum (Norway) as well as in synagogues in Poway (California, USA) and in Halle (Germany) [4]. The perpetrators were united as they participated in similar online communities where they enjoyed the attraction of the attack, intensified even further by them inspiring each other. In the European Union there were ten reported terrorist attacks in 2021. Two of them

were targeted against or near a religious site. The cases included a knife attack on the Notre Dame Cathedral in Nice (France) and a shooting near a synagogue in central Vienna (Austria) [5]. The majority of terrorist attacks worldwide have been based on unsophisticated means, including stabbings, vehicle ramming, arson (with incendiary devices) and the use of firearms, while concurrently a decline in the use of explosives was observed [6].

As regards research conducted within the framework of the ProSPeReS project, it is clear that the awareness of administrators of such facilities remains insufficient, and that the security of even the most popular places of worship might allow a terrorist attack scenario to be carried out [7]. Study visits have shown that the surveyed places did not have access control, and only some of them had video surveillance. NaCTSO (National Counter Terrorism Security Office) recommends the deployment of both active security measures as well as other means, such as a front-line staff, security personnel, the public residing in the facility, but also physical security measures, which include: search and screening equipment, barriers, bollards, fences, reinforcement of buildings and other structures through the use of reinforced glass and blast doors, and optimization of the site layout, such as the creation of safe spaces and escape routes, electronic access controls, passive CCTV (e.g., recording only), smart CCTV and other detection, tracking and alarm systems [8].

By nature, churches encourage worshippers to trust the institution, while not always ensuring adequate protection in a place designed for prayers and group gatherings [9]. The preparation of religious sites for a potential hazard is highly diversified and tends to vary greatly in the EU depending on location, symbolism of a certain place as well as the type of faith. Shortcomings in security measures arise from a combination of several factors. For example, we can take into account the fact that operators' perception of risk may be biased, as no attacks on their or their religion's worship facilities have been reported to date. Another reason is the natural need for keeping the sites easily accessible for worshippers, especially while a service (gathering) is taking place. In such cases security measures might be underestimated [10]. In general it seems that Muslim and Christian religious facilities have adopted an access policy that is more open, which is not necessarily the case for synagogues. The security policies adopted by those temples are of a much stricter nature. Thus, each type of faith may have a completely different strategy and policy towards the rules pertaining to how their facilities are used. All in all congregations that are open to all people must be ready for a wider range of attack possibilities and maintain constant vigilance.

Being aware of a potential hazard it is highly important to implement relevant risk communication measures that should involve the administrators, public agencies and worshippers, which might be achieved by assuring proper education measures in this area. Moreover, a relevant division of responsibilities and tasks between religious event stakeholders is crucial. An informed administrator will

know how to secure the place visited by worshippers, even if he or she has a policy of “doors open to everyone” [11].

Additionally many religious sites are not used only for daily prayer and religious events. Places of worship are known to be used as community centres or parts of monasteries, and/or may include facilities such as a school, a kindergarten, a library, a cultural museum and other secondary prayer structures, adding to the complexity of their operation and their symbolic value as a potential target for attacks. Those facilities, as well as the more open locations, like temples, might be the venue of VIPs presence that also might be a factor increasing a risk of terrorist attack due to the need for reinforcement of a symbolic impact of an attack.

Furthermore, CBRN (chemical, biological, radiological, less relevant nuclear) agents might be considered by terrorists as attractive substances to be used towards achieving their aims. The availability of hazardous materials is in most cases well controlled by the law and dedicated institutions, however, it cannot be completely excluded that potential perpetrators gain access to them. Other than that, there are also so called dual-use materials available on the market that are typically used in industry or other branches like medicine or fire prevention (e.g. radioactive sources). With appropriate knowledge they might also be utilized for criminal purposes.

According to the findings of the ProSPeReS project, obtained during study visits in places of worship, it was ascertained that there have not been CBRNE procedures established or planned at religious sites until the time of the visits [12]. This finding provoked the research provided in this paper on a potential terrorist attack with the use of radioactive material. In case of such an incident appropriate response is expected, including proper measures and behaviours of all stakeholders leading e.g. to evacuation from a potentially contaminated zone with provision of first aid and other assistance required by law [13].

The purpose of the article is to present a concept for improving security of religious sites by promoting prevention in churches, mosques, synagogues and other places of where worshippers gather. This article is intended to provide to administrators of religious sites different ideas how to increase the level of protection of religious gatherings.

2. Materials and methods

2.1. Literature review

The literature review survey has been conducted by a review of five research and scientific publications portals (Table 1). There have been five different key phrases surveyed. These were: *security of places of worship*, *security of gatherings*, *terrorism*, *places of worship*, *security at the level of design*.

Table 1. Quantitative overview of the literature review

key word/ search engine	IEEE Xplore	Web of science	Google scholar	Springer link	Academia	total
security of religious sites	11	72	15700	2530	17217	18313
security of assemblies	961	55	9250	5648	4862	15914
places of worship	21	9	2270	101	674	2401
terrorism	50	5	45000	3771	1341	48826
security places of worship	4	51	0	61	4606	116
security by design	1836	146	396	64	2566	2442
total from a single search engine	2883	338	72616	12175	31266	88012

Source: own study

The selection process of the sources review is presented below (Fig. 1).

After analysing the revealed sources by the type of scientific discipline as well as by reading the abstracts, 82 articles were left for full reading. Thus the article benefits from an in-depth reconnaissance of literature materials being contained in the most popular scientific databases.

Moreover, the findings directly relate to the ProSPeReS project, the objective of which is to establish a system of protection for large gatherings of people in places of worship. For example certain findings, related to the security aspects of these places, have been identified in the course of religious sites visits in different congregations, a survey with the administrators of these sites as well as interviews with experts that have been carried out in frames of the project.

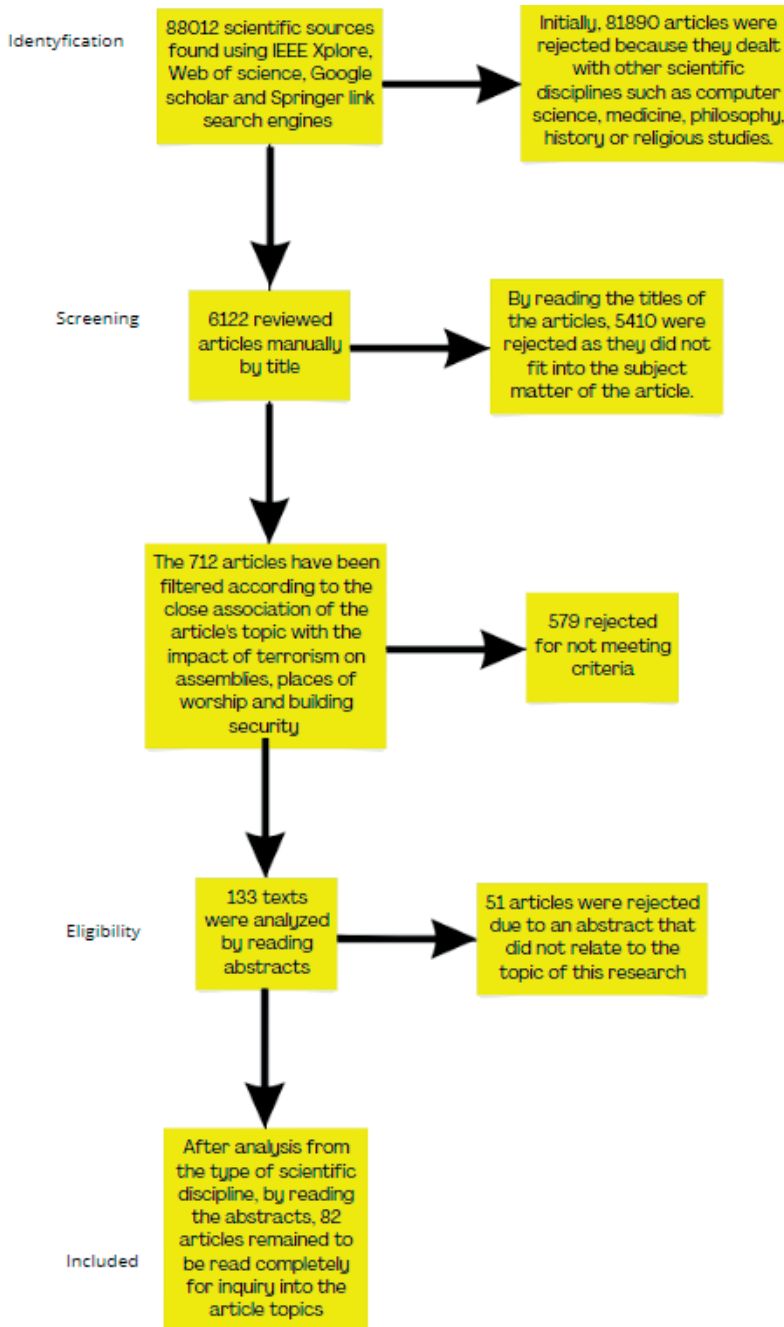


Fig. 1. Diagram for the selection of studies

Source: own study; the diagram devised based on [14]

2.2. Bow-tie combined with the *Vulnerability Assessment Tool* approach

The following research methods have been deployed and combined in order to achieve the objective of the article:

- analysis of the bow-tie tree, which is the authors' study of the problems arising from possible mistakes in securing religious sites and their consequences;
- zoning of religious sites and areas adjacent to them. The zoning is intended to be a part of *Vulnerability Assessment Tool (VAT)*, a tool facilitating estimation of the risk of a potential threat and supporting identification of the possibilities of securing religious sites. The tool was adapted from the ProSPeReS project [15].

The research presented in the paper has been conducted by applying the bow-tie analytical method to design a hypothetical scenario of a terrorist attack involving radioactive material, which appears to be likely from a qualitative perspective. The sequence of deterministic conditions and events presented in the diagram have been figured out based on the results of a literature review, study visits and discussion with security experts. Nevertheless the bow-tie diagram has been customized and extended by combining it with the *Vulnerability Assessment Tool (VAT)* approach. In result of this fusion, the model consists of some consecutive fault trees (FTA) and one event tree analysis (ETA). As such the VAT approach provides additional dimensions for the overall analysis. These dimensions are based on the religious site area segmentation as shown in the graphical representation of a hypothetical object of interest (Figure 2).

The illustration, obtained from the *Vulnerability Assessment Tool*, shows the division of individual zones in a potential venue of a religious gathering. It depicts a hypothetical example of a religious site and the area adjacent to it, which is necessary to reach by worshippers and also by a potential perpetrator. The area is divided into five security zones, while security measures can be applied in each of the zones to counter terrorist attacks. The approach has been adapted to the bow-tie method in a way that there are six sequential FTAs (one as phase 0 dedicated to the initial conditions for a potential attack e.g. a motivated perpetrator, and phases 1–5 or 1–6 connected to the site access as shown on Figure 2). Each of the FTA ends up with the critical event constituted as getting access by a potential perpetrator to the next zone (phase). Division of zones is defined as follows:

- P1 – public road system that provides access/leads to the main activity area (e.g., church area, synagogue);
- P2 – parking and public transport;
- P3 – passages to the place of worship;
- P4 – places of entry and exit from the venue;
- P5/6 – site area and/or building facility e.g. a temple (might be considered alternatively: P5 without individual security check entrance, P6 with security control).

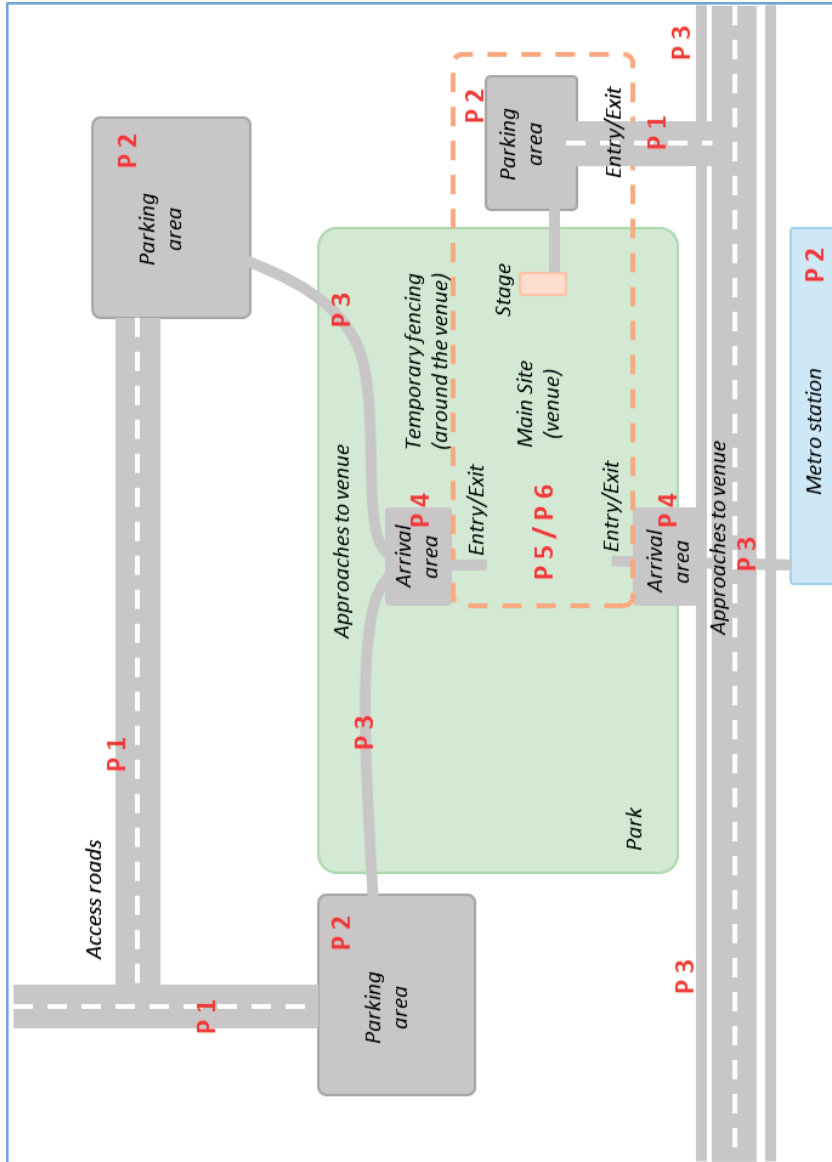


Fig. 2. Hypothetical venue of religious gathering that might be a closed facility (e.g. temple) or an open square of a religious gathering (e.g. a church mass)

Source: [16]

Apart from security measures in each of the zones, some of the most relevant vulnerabilities have been identified as well. Based on results of the analysis, potential measures to be taken into consideration to prevent and/or mitigate the risk are finally proposed.

3. Results

3.1. Scenario

For the purposes of the study, a hypothetical building of interest was defined, referring to the environment shown in Figure 2, as a Roman Catholic church built in the early 20th century. The venue is used for daily masses and pilgrimages and is periodically visited by VIPs due to its symbolic significance. There is a parking lot in close proximity with no entry restrictions, and close to it there is public transport available. The church is fenced off, but access is permitted outside of meeting hours. Basically the fence is intended to separate the parking lot from a public road. Furthermore, the parking lot of the church is not monitored where it is connected by a very short sidewalk to the front door of the church. The access roads are also not monitored and have no solutions for traffic slowdown in place. The parking lot is lit with city lighting, which is often turned off due to rising energy prices and the need to subsidize, for example, school heating. Along the fence there is dense greenery where someone can hide and even conceal dangerous materials. Inside the church there is only basic lighting, which can be turned off by accessing the fuse box located in the sacristy, is locked with a door that does not allow opening without keys. The church is furnished with bars in its windows. It is impossible to enter the church through the front door without keys at night. In total there are three entrances to/exits from the building, but only the main one is open. The other ones might be unlocked by the administrator on request. Cyclically, there is a procession of gifts during a mass service in the church, i.e. a display of hosts, wine and other items for the recitation of prayers, after the faithful bring them to the altar. After the consecration of the bread and wine, they remain on the altar for consumption until the host is divided among the faithful in remembrance of the bread shared by Jesus. The church does not have any security service or any law enforcement agency patrols in the area during the ceremonies.

In such circumstances, it is likely that a potential perpetrator could gain access to the said gifts before church mass. Thus, a perpetrator might contaminate the gifts with a powdered radioactive material as he or she reaches the gifts, not being noticed or stopped by anyone. The contaminated host may consequently be consumed by worshippers without being aware of it (for example during holy communion) since radioactivity is not noticeable with natural human senses like sight or smell.

Figure 3 depicts the bow-tie diagram (presented for the article in a rotated form). Each presented zone (phase) starts from the left side of the diagram, from P0 up to the P5 where the critical event such as a potential terrorist attack takes place. The predisposition of a potential perpetrator to carry out an attack (purple cells) is shown. Potential vulnerabilities are depicted with yellow cells, while blue cells represent entering of a perpetrator to the following zone (phase) that are understood as a sub-critical event. On the other side of the main critical event (contamination of the hosts) there is an event tree composed of consequences (green cells). As a result the diagram is divided into six zones (phases P0–P5) that the perpetrator has to go through unnoticed in order to accomplish the planned terrorist act.

The scenario storyline that enabled establishing the bow-tie diagram is as follows. While browsing through an internet forum on radioactivity, a perpetrator with extreme ideological views realises that some smoke detectors might contain a certain amount of radioactive substances. Getting access to a number of such detectors, the perpetrator extracts the radioactive material from them. That concludes P0 phase where the potential perpetrator is able to collect a hazardous agent as material to be used for the purposes of the planned terrorist attack. Further the scenario foresees that the terrorist is arriving with a passenger car and parking directly at the church entrance. The hazardous material is carried to the church in an inconspicuous bag. The terrorist may be dressed thickly in the winter, which will partly protect him from radiation (generated by the material), at the same time not arousing any suspicions. The perpetrator sits in a pew right next to the gifts (the hosts in the nave of the church), stays there for some time without being observed or monitored by a clergyman or a designated person. The perpetrator pours radioactive dust into the host and leaves an envelope containing a financial donation to the church next to the gifts. Then he/she leaves the church before the mass service starts. The incident as such was not recorded by any of cameras, as there are none in the facility, and it was not identified as unusual behaviour by worshippers being present at that time in the venue. After leaving the parish area, the perpetrator drives away with his/her car. Later on he/she uploads own footage in internet, which shows pouring of radioactive dust into the host in the church in order to multiply the impact of the terrorist attack via the media.

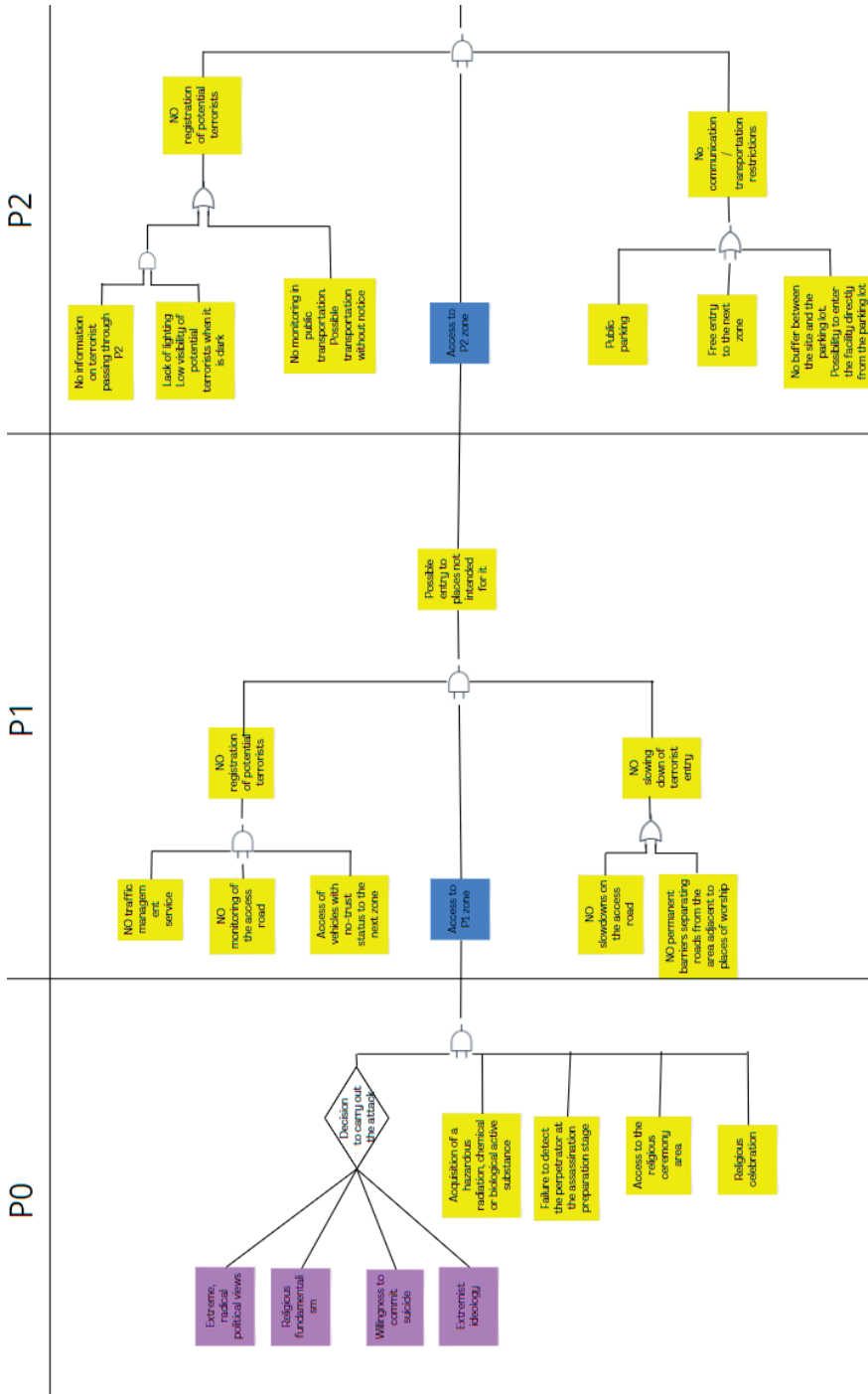


Fig. 3. Bow-tie diagram combined of fault trees and an event tree

Source: own study



Fig. 3 (cont.). Bow-tie diagram combined of fault trees and an event tree
Source: own study

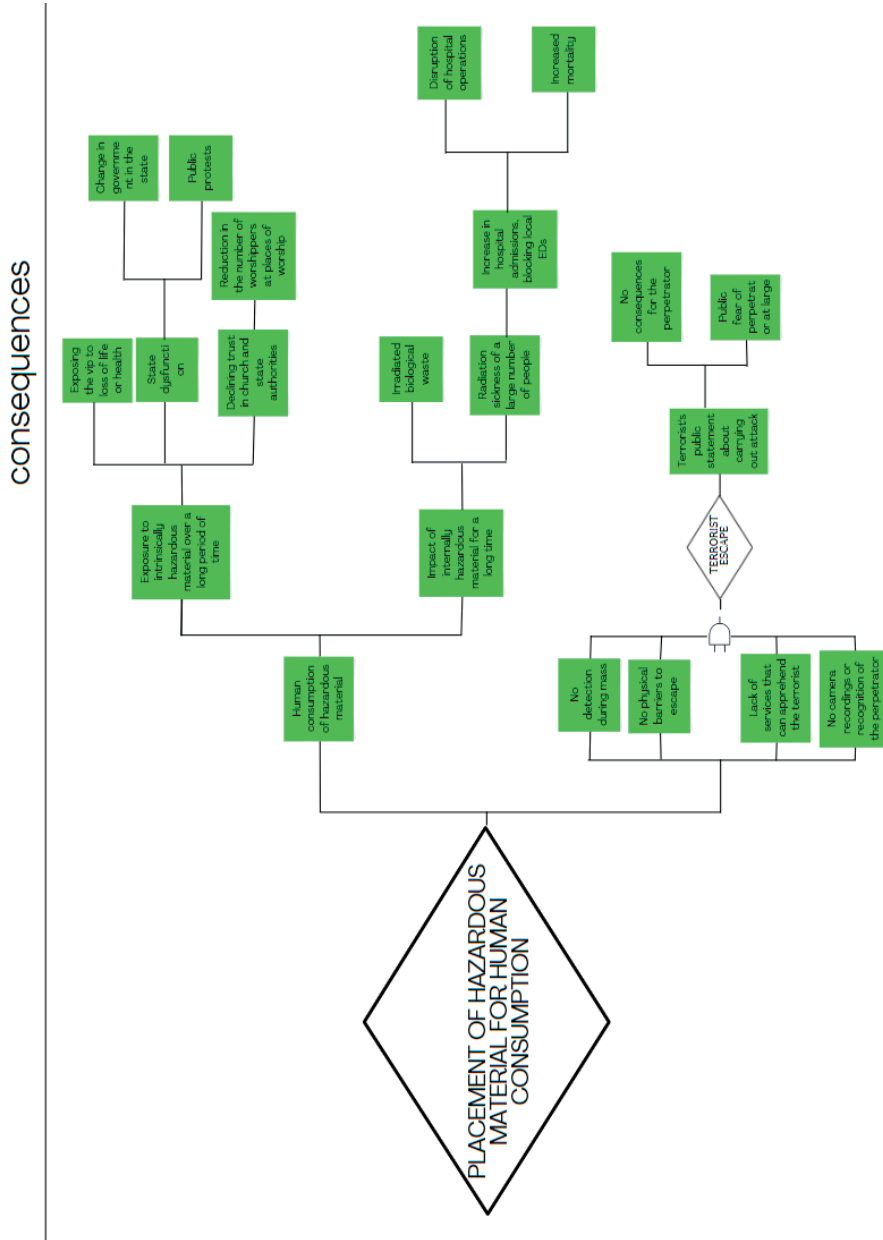


Fig. 3 (cont.). Bow-tie diagram combined of fault trees and an event tree

Source: own study

3.2. Risk mitigation measures

There is a number of measures, so-called barriers, which might be undertaken to mitigate the risk of the above scenario or a similar one. Some examples are presented below with a distinction into individual phases (zones) as the scenario flow was analysed. For Phase 0 (P0) the following measures might be applied:

- restricting the sale of hazardous materials;
- educating the public to communicate suspicious behaviour in their surroundings;
- restricting access to religious sites, e.g. by signing up for a ceremony/meeting.

Phase 1:

- retarders on the access road;
- permanent barriers separating roads from the area adjacent to places of worship;
- traffic direction service;
- monitoring of the access road.

Phase 2:

- lighting of the area;
- moving the parking lot away from the religious building;
- designating internal vehicle routes so as to maximize pedestrian safety and prevent unauthorized vehicles from entering key buildings or areas;
- reserving parking spaces in advance;
- restricting access and recording the personal data of the person entering/leaving;
- entry barrier;
- lowering barriers for vehicle exit;
- furnishing monitoring in public transportation and in parking lots.

Phase 3:

- limited number of garbage cans and benches;
- restricting green architecture to make it impossible to hide;
- CCTV monitoring;
- law enforcement agencies such as the police;
- restricting vehicle entry into the zone.

Phase 4:

- security services / volunteers;
- CCTV monitoring;
- reinforced gates/doors;
- door access control system (e.g., key code access in critical rooms/areas);
- hazardous materials control gate, with detection devices and security control (metal detectors, X-ray systems, explosives detection systems);
- assuring lighting of the area.

Phase 5:

- law enforcement services/volunteers;
- CCTV monitoring;
- reinforced gates/doors, window bars;
- grates on doors;
- emergency exits;
- permanent security personnel;
- housekeeping services/volunteers.

4. Discussion

The U.S. Department of Homeland Security, in cooperation with the Institute for Economic & Peace, publishes the Global Terrorism Index (GTI) report each year. The report presents the impact of terrorism over the past two decades. During that time, several distinct phases of terrorist activity have been observed. Europe recorded 2,558 deaths as a result of 4,531 terrorist attacks between 2002 and 2019. In addition, between 2002 and 2010, the UK and France were the second and the third most affected countries in Europe, but both saw a decrease in the number of attacks between 2018 and 2019. The majority of attacks in 2019 took place in Northern Ireland, where 69 incidents were recorded. Bombings and armed attacks are the most common forms of terrorism in most regions. In Europe in particular, 50% of attacks are bombings/explosions, 15% armed attacks, 5% hostage attacks and 5% assassinations, 20% attacks on facilities/infrastructure, and 5% had other forms [17]. The European Union has issued a guide to support protection of places of worship, as religious sites of any religion are extremely vulnerable to terrorist attacks [18]. As a consequence, the services consider it a priority to strengthen their protection by fostering cooperation among the various religious communities and with the relevant national authorities, as well as by supporting projects intended to increase their physical protection. Looking at the diversity of threats, a wide range of security measures are needed to protect religious sites, from basic ones such as solid entry doors to devices that screen items brought into the premises.

The ever-evolving building security market is proposing new solutions to take into consideration when administering facilities such as churches, synagogues, Orthodox churches and other similar places of worship. When developing security measures, consideration is given to stopping a dangerous event in the furthest possible zone from the facility where it takes place. Detection and prevention of attacks take place as early as the planning stage of an attack, when the public perceives suspicious behaviour of a terrorist or specific behaviours that speak of extremist ideology, religious fundamentalism, and desire to commit suicide or extreme radical political views [19]. While response measures might be taken

only after an attack has been made, it is worth to underline that by educating the faithful to recognise risks, we can avoid hazards already at the planning stage [20]. We know from research carried out as part of the ProSPeReS project that there are already congregations that designate a permanent duty for church-goers in worship facilities, which, according to the facility administrator, works very well [21]. No attack or act of devastation has been reported at the facility. Moreover, one of security measures adopted in one of the studied congregations is a requirement for registration for a religious ceremonies. Such a solution enables the identification of people who are from outside of the community of worshippers, and by that, a potential “soft” check of these persons (e.g. searching in internet sources if the person’s beliefs are not extremist by nature) might be done in advance, before the ceremony. If findings obtained in the internet confirm a connection of the person with extremist groups or any other suspicious reason, then the organizer of the religious event might undertake relevant steps to prevent such a person from being a part of this gathering. This is a rarely used solution among religious congregations adopting the principle of “doors open to everyone”, however, one that is worthy of taking into consideration for risk assessment and implementing security measures.

5. Conclusion

In order to reduce the risk of unwanted incidents taking place at places of worship, security measures must be carefully selected for the place of assembly itself, but also for the surrounding area and the means of transport to reach it. Countering acts of terrorism is done not only through physical security measures, but also by educating the public in the early detection of behaviour suggesting the potential execution of a terrorist attack. After reviewing the available literature sources a conclusion may be drawn that there is currently no evidence of a link between the criminal world in Poland and terrorist organizations [22], but further efforts should be pursued due to the increasing phenomenon of radicalization [23]. It is highly important to analyse the possibilities of early detection of radicalisation in our environment. Now that Poland is not yet faced with major terrorist incidents it is necessary to evaluate the institutions that deal with the issue of radicalization [24]. The article introduces the use of newly proposed tool for assessing the risk of a terrorist attack, literally a bow-tie tree consisting of several fault trees (FTA) and an event tree. The use of the risk assessment tools presented in the article by planners of religious gatherings and administrators of places of worship will be an opportunity for them to reflect on the security of their facilities and the events they organize. Such an approach can certainly contribute to an increase in the number of places they protect and especially worshippers.

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References

- [1] Cottey A., *Security in 21st Century Europe*, Palgrave Macmillan, Basingstoke 2013.
- [2] Sendek Ł., *Zjawisko terroryzmu oraz walka z nim w Unii Europejskiej*, Repozytorium Instytucjonalne Krakowskiej Akademii im. Adama Frycza Modrzewskiego, Kraków 2009.
- [3] Dyrzc C., *Terroryzm początku XXI wieku jako zagrożenie bezpieczeństwa międzynarodowego i narodowego*, Zespół Redakcyjno-Wydawniczy Marynarki Wojennej, Gdynia 2005.
- [4] EUROPOL, European Union Terrorism Situation and Trend report (TE-SAT) 2020. <https://www.europol.europa.eu/publications-events/main-reports/eu-terrorism-situation-and-trend-report>. Access 01/12/2022.
- [5] EUROPOL, European Union Terrorism Situation and Trend Report (TESAT) 2021. Retrieved from <https://www.europol.europa.eu/publications-events/main-reports/european-union-terrorism-situation-and-trend-report-2021-tesat>. Access 01/12/2022.
- [6] ProSPeReS – D2.6 Report on Past Events / Best Practices / Gap Analysis / Needs Assessment of Religious Sites. p. 10.
- [7] Wiśniewski B., Zwęgliński T., *Konteksty bezpieczeństwa uroczystości religijnych* [in:] *Racjonalizacja zarządzania jednolitymi formacjami umundurowanymi odpowiedzialnymi za bezpieczeństwo wewnętrzne*, Vol. X, [ed.] B. Wiśniewski, M. Gikiewicz, T. Zwęgliński, Szkoła Główna Służby Pożarniczej, Warsaw 2022, pp. 188–196.
- [8] ProtectUK, *Security risk management* from <https://www.protectuk.police.uk/threat-risk/security-risk-management>. Access 01/12/2022.
- [9] Wiśniewski B., Zwęgliński T., *Wybrane problemy bezpieczeństwa dużych skupisk ludzkich innych aniżeli zgromadzenia publiczne i imprezy masowe*, “Zeszyty Naukowe Pań-

- stwowej Wyższej Szkoły Zawodowej im. Witelona w Legnicy”, 2022, 2 (43): 89–100. DOI: 10.5604/01.3001.0015.9798.
- [10] ProSPeReS, WP3 – Prepare tailored security measures for religious sites, D3.1 – Analysis and assessment of the relevance of the state-of-the-art achievements in public places protection.
- [11] Sybicki A., *Problematyka ochrony antyterrorystycznej miejsc kultu religijnego*, “Terroryzm” 2022, no. 1, pp. 200–228. DOI: 10.4467/27204383TER.22.007.15423.
- [12] ProSPeReS Reports on study visits to places of worship. T WP2 – A.2.3. Vulnerability Assessment & Needs Analysis of Religious sites.
- [13] Zwęgliński T., *Organizacja ewakuacji ludzi z obiektów sakralnych* [in:] *Bezpieczeństwo uczestników zgromadzeń religijnych*, [ed.] B. Wiśniewski, A. Prędecka, J. Bryk, A. Szela, Szkoła Główna Służby Pożarniczej, Fundacja Obserwatorium Społeczne, Warsaw 2017, pp. 443–476.
- [14] McKenzie J.E., Bossuyt P.M., Boutron I., Hoffmann T.C., Mulrow C.D., *The PRISMA 2020 statement: an updated guideline for reporting systematic reviews*, PRISMA (prisma-statement.org). Access 01/12/2022.
- [15] Public Resilience using Technology to Counter Terrorism, D2.1 – Manual for vulnerability assessment <https://vdocuments.net/d21-manual-for-vulnerability-assessment.html?page=1>. Access 01/12/2022.
- [16] ProSPeReS Project – Report D2.1 Manual for Vulnerability Assessment Final v. 1.
- [17] Global Terrorist Index (GTI) 2020 <https://www.visionofhumanity.org/wp-content/uploads/2020/11/GTI-2020-Briefing.pdf#:~:text=In%20the%202020%20Global%20Terrorism%20Index%2C%20deaths%20from,recorded%20a%20deterioration.%202020%20GLOBAL%20TERRORISM%20INDEX%20BRIEFING>. Access 01/12/2022.
- [18] EU Quick Guide to support protection of Places of Worship_en.pdf (europa.eu) from https://home-affairs.ec.europa.eu/system/files/2021-11/EU%20Quick%20Guide%20to%20support%20protection%20of%20Places%20of%20Worship_en.pdf. Access 01/12/2022.
- [19] Leistedt S.J., *Behavioural aspects of terrorism*, “Forensic Science International” 2013, vol. 228, Issues 1–3, pp. 21–27. DOI: 10.1016/j.forsciint.2013.02.004.
- [20] Szela A., *Organization of activities for the security of religious gatherings*, Szkoła Główna Służby Pożarniczej, Fundacja Obserwatorium Społeczne, Warsaw 2017, pp. 79–88.
- [21] ProSPeReS – WP3.3 – Set of procedures to prevent, protect, detect, respond and mitigate the result of terrorist attacks.
- [22] Zadora P., *Terroryzm jako źródło zagrożenia bezpieczeństwa Rzeczypospolitej Polskiej* “Security, Economy & Law” 2019, No. 3 (XXIV), pp. 43–70, DOI: 10.24356/SEL/24/3.
- [23] Collegium Civitas, *Społeczny wymiar radykalizacji – czynniki wpływające na proces radykalizacji młodych ludzi. Wnioski z badań w projekcie “DARE”*, Warsaw 2021.
- [24] Olech A., *Unikalne rozwiązania Republiki Francuskiej w walce z terroryzmem i radykalizacją*, “Terroryzm” 2022, no. 1, pp. 123–166. DOI: 10.4467/27204383TER.22.005.15421.