Załącznik nr 3
Appendix No. 3

Summary of Professional Accomplishments

1. First name and last name:
Wojciech Filipkowski

2. Diplomas, science/arts degrees – name, location, and year obtained and title of the doctoral dissertation:

1994-1999 – Masters of Law, Faculty of Law, University of Białystok. Studies completed with very good grades, graduated with honors. Master's thesis entitled "Domestic Violence" written under the supervision of Professor Emil W. Pływaczewski.

5 April 2002 - Doctor of Legal Science title, Faculty of Law, University of Białystok. Dissertation entitled "Countering money laundering with particular focus on institutions of the financial market," written under the supervision of Professor Emil. W. Pływaczewski. The doctoral program was reviewed by Professor O. Górniok and Professor J. Głuchowski.

3. Information on employment in academic/artistic entities.

December 2001 – October 2002 – assistant in the Institute of Criminology and Organized Crime, Faculty of Law, University of Białystok.

July 2003 – September 2005 – lecturer at the Education Sciences Faculty, Non-State Higher Pedagogical School in Białystok.

October 2002 – present – assistant professor at the Department of Criminal Law, Faculty of Law, University of Białystok.

4. Achievements[*] pursuant to art. 16 (2) of the Act of 14 March 2003 on academic degrees and titles and on arts degrees and titles (Journal of Laws no. 65, item 595, as amended):

4.1. The achievements that, in the opinion of the Habilitation Candidate, meet the criteria defined in to art. 16 (2) of the Act of 14 March 2003 on academic degrees and titles and on arts degrees and titles (Journal of Laws no. 65, item 595, as amended), i.e. have been completed after receiving the Doctor's degree and constitute a significant contribution to the development of a specific field of science include – **a monothematic cycle of publications, for the purpose of this summary given the following title: *Criminalistic aspects of the use of information technology tools to obtain and use information intended for improving the efficiency of the fight against crime*.[1] The series comprises 15 articles:**

[*] If the achievement is a joint work/works, it is necessary to present statements of all its/their authors defining the individual contribution of each author in its/their creation.

[1] Pursuant to item III 3 of the communication no. 2/2012 of the Central Committee for Scientific Titles and Degrees, http://www.ck.gov.pl/index.php/komunikaty-ck/248-k-o-m-u-n-i-k-a-t-n-r-220123, as of 14 June 2012, the Habilitation Candidate, in the application submitted to the Central Committee indicates the part of his scientific or artistic achievements (made after he has obtained the degree of a "doktor"), which as a scientific or

1. G. Dobrowolski, W. Filipkowski, E. Nawarecki, W. Rakoczy, "Systemy agentowe i metody sztucznej inteligencji w walce z terroryzmem w Internecie" [Agent systems and artificial intelligence methods in the fight of terrorism on the Internet], in: K. Indecki, ed., Przestępczość terrorystyczna, Ujęcie praktyczno-dogmatyczne [Terrorist Crime. A Practical-Dogmatic Approach], pp. 174-197. *My contribution to this work consisted in gathering and analyzing the literature in the field of criminology that was necessary to prepare the work. I estimate my contribution to be equal to 30%.*

2. G. Dobrowolski, W. Filipkowski, M. Kisiel-Dorohinicki, W. Rakoczy, "Wsparcie informatyczne dla analizy otwartych źródeł informacji w Internecie w walce z terroryzmem. Zarys problemu" [Information technology support to analysis of open information sources on the Internet in the fight against terrorism. Outline of the problem], in: L. Paprzycki, Z. Rau, eds., *Praktyczne elementy zwalczania przestępczości zorganizowanej i terroryzmu. Nowoczesne technologie i praca operacyjna* [Practical elements of the fight against organized crime and terrorism. Modern technologies and operational work], Oficyna, Warsaw 2009, pp. 275-303. *My contribution to this work consisted in gathering and analyzing the laws and the literature in the field of criminology that was necessary to prepare the work. I estimate my contribution to be equal to 30%.*

3. R. Dreżewski, W. Filipkowski, J. Sepielak, "Analiza przepływów finansowych" [Analysis of financial flows], in: E. Nawarecki, G. Dobrowolski, M. Kisiel-Dorohinicki, eds., *Metody sztucznej inteligencji w działaniach na rzecz bezpieczeństwa* [Artificial intelligence methods in actions aimed to improve security], AGH, Kraków 2009, pp. 81-102. *My contribution to this work consisted in gathering and analyzing the laws and the literature in the field of criminology that was necessary to prepare the work. I estimate my contribution to be equal to 33%.*

4. W. Filipkowski, B. Śnieżyński, "Zarządzanie dokumentami tekstowymi w postaci elektronicznej" [Management of text documents in electronic form], in: E. Nawarecki, G. Dobrowolski, M. Kisiel-Dorohinicki, eds., *Metody sztucznej inteligencji w działaniach na rzecz bezpieczeństwa* [Artificial intelligence methods in actions aimed to improve security], AGH, Kraków 2009, pp. 255-268. *My contribution to this work consisted in gathering and analyzing the laws that were necessary to prepare the work. I estimate my contribution to be equal to 30%.*

5. W. Filipkowski, "Rozwiązania technologiczne w pracy policji na podstawie badań ankietowych" [Technological solutions in the work of the police based on survey studies], *Przegląd Policyjny* 2010, no. 1, pp. 71-89.

6. W. Filipkowski, "Prawne i organizacyjne instrumenty zwalczania przestępczości zorganizowanej w opinii funkcjonariuszy Centralnego Biura Śledczego" [Legal

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artistic achievement, corresponds to the content of art. 16 (1) and (2) of the Act and constitutes the basis for applying to be conferred the degree of "doktor habilitowany". **If such an achievement is a "monothematic cycle of publications," then it is given a title (in the same way as in the case of a monograph indicated as a "scientific achievement" in the meaning of art. 16 (2) (1) of the Act).**

and organizational instruments intended for fighting organized crime in the opinion of officers of the Central Bureau of Investigation], *Białostockie Studia Prawnicze* 2009, book 6, pp. 136-164.

7. W. Filipkowski, "Ocena wybranych instytucji służących zwalczaniu przestępczości zorganizowanej" [Evaluation of selected institutions charged with combating organized crime], *Ruch Prawniczy, Ekonomiczny i Socjologiczny* 2010, book 2, pp. 157-172.

8. W. Filipkowski, "Technologiczne aspekty walki z przestępczością zorganizowaną" [Technological aspects of the fight against organized crime], in: J. Kasprzak, B. Młodziejowski, eds., *Wybrane problemy procesu karnego i kryminalistyki* [Selected problems of criminal process and criminalistics], Warmia i Mazury University in Olsztyn, Faculty of Law and Administration, Olsztyn 2010, pp. 253-273.

9. W. Filipkowski, Report from the International Conference on the DETECTER Project, entitled "Data Mining and Human Rights in the Fight Against Terrorism" (Zurich, 10-11 June 2010), *Przegląd Policyjny* 2010, no. 4, pp. 209-216.

10. W. Filipkowski, J. Pogorzelski, "Legal instruments intended for the fight against organized crime in the opinion of public prosecutors", in: W. Pływaczewski, ed., *Organized Crime and Terrorism. Reasons – Manifestations – Counteractions*, University of Warmia and Mazury, Olsztyn 2011, pp. 89-109. *My contribution to this work consisted in elaboration of the concept of research and analysis of the literature necessary for preparation of the work, statistical analysis of the research results, and preparation of the final version of the document. I estimate my contribution to be equal to 80%.*

11. W. Filipkowski, "Nowe kierunki badań nad bezpieczeństwem w Polsce i ich efekty" [New directions of research on security in Poland and their effects], *Białostockie Studia Prawnicze* 2011, no. 9, pp. 261-275.

12. P. Chlebowicz, W. Filipkowski, 2011, *Analiza kryminalna. Aspekty kryminalistyczne i prawnodowodowe* [Criminal intelligence analysis. Criminalistic and law of evidence aspects], Wolters Kluwer, 220 pages. *My contribution to the work consisted in preparation of Chapters 1 and 4 and a part of Chapter 3 with regards to the research methodology in the criminalistic aspects and a part of the conclusions from the analysis of the research results – Conclusion 1.1. I estimate my contribution to be equal to 50%.*

13. W. Filipkowski, "Wykorzystywanie otwartych źródeł informacji. Wyniki badań ankietowych" [Use of open information sources. Survey research results], in: W. Filipkowski, W. Mądrzejowski, eds., *Biały wywiad. Otwarte źródła informacji - wokół teorii i praktyki* [Open source intelligence – on the theory and the practice], C.H.Beck, Warsaw 2012, pp. 135-163.

14. R. Dreżewski, W. Filipkowski, J. Sepielak, "System supporting money laundering detection", *Digital Investigation*, June 2012, Volume 9, Issue 1, pp. 8-21. *My contribution to this work consisted in gathering and analyzing the legal and*

criminalistic literature needed for preparation of the work. I estimate my contribution to be equal to 33%.

15. W. Filipkowski, J. Pogorzelski, "Technological aspects of the fight against organized crime in the opinion of public prosecutors", in: E. W. Pływaczewski, ed., *Current Problems of the Penal Law and Criminology*, LEX a Wolters Kluwer business, Warsaw 2012, pp. 135-151. *My contribution to this work consisted in elaborating the concept of research, gathering and analyzing the literature necessary for preparation of the work, performing a statistical analysis of the research results, and preparing the final version of the document. I estimate my contribution to be equal to 80%.*

16. W. Filipkowski, "Wybrane aspekty technologiczne walki z przestępczością zorganizowaną" [Selected technological aspects of the fight against organized crime], *Przegląd Policyjny* 2012, no. 1, pp. 107-122.

4.2.

The Habilitation Candidate's interests focus on criminalistic tactics. The research he has been involved in concerned acquisition and use of information by law enforcement agencies, security services, and criminal justice for the needs of operational or criminal procedures conducted by them for detection or evidence purposes, as appropriate. Unlike in the traditional approach to the issue, the research focused on the use of the most recent technological solutions, mostly information technology ones, in this area. Also, criminalistic tactics includes the rules for purposeful and effective use of technical means in the fight against crime. This was another aspect of the research conducted by the Habilitation Candidate. The thesis was proposed that the achievements of contemporary information technology in the area of acquisition and analysis of information can contribute to a more effective fight against crime. Moreover, it was emphasized that the solutions adapted the fastest are those that are intended to prevent and combat the most serious categories of crime, in particular organized crime and terrorism. This is due to the fact that the solutions that are sought are those that improve the effectiveness of the operation of state organs in dealing with such crimes, which are hard to detect and persecute.

It must be stated that the studied use of information technologies as a part of operational-reconnaissance or process activities is not equal to computer forensics, as the latter is limited to detecting, securing, and analysis of digital data located on various electromagnetic or optical data carriers. Such solutions are not fully described by the term 'operational technique' which is used in criminalistic literature. Therefore, it is reasonable to look for a new term that could render the meaning of the described problem of analysis of advisability of the use of information technology tools and their effective utilization in the fight against crime.

Information technology solutions are appreciated by practitioners but are overlooked by the science of criminalistics. This issue has become the subject of the session of Committee II entitled "Recent developments in the use of science and technology by offenders and by competent authorities in fighting crime, including the case of cybercrime"

(where the Habilitation Candidate presented a report) during the 12th United Nations Congress on Crime Prevention and Criminal Justice held in 2010 in Salvador, Brazil.

The Habilitation Candidate has conducted research in the following fields:

A. Contemporary technologies supporting law-enforcement agencies, security services, and criminal justice in the fight against organized crime.

A1. Contemporary technologies.

A.2. Proposals concerning technological solutions.

A.3. Anticipated directions of research and development.

A.4. Conclusions.

B. Evaluation of usefulness of evidence obtained by using technological solutions at the stage of operational-reconnaissance activities, with particular focus on criminal intelligence analysis.

C. The most recent information technology solutions that can improve the effectiveness of actions undertaken by law enforcement agencies, security services, and criminal justice.

C.1. Analysis of financial flows.

C.2. Processing of documents for the needs of criminal proceedings.

C.3. Analysis of information acquired from open information sources, with particular focus on the Internet.

C.4. Further directions of joint research of penal sciences and technological sciences.

D. Research on criminal intelligence analysis in the criminalistic aspect.

D.1. Introductory problems.

D.2. Verification of research hypotheses.

D.3. Postulates resulting from the research conducted.

Re. A. Contemporary technologies supporting law-enforcement agencies, special services, and criminal justice in the fight against organized crime.

At the initial stage the Habilitation Candidate's interested in this fairly new field of criminalistics were realized in the framework of the bespoke research project commissioned by the Ministry of Science and Higher Education entitled *Monitoring, identification, and countering threats to citizens' security* (no. PBZ-MNiSW-DBO-01/I/2007), managed by Professor Emil W. Pływaczewski (W. Filipkowski, „Wybrane aspekty technologiczne walki z przestępczością zorganizowaną" [Selected technological aspects of the fight against organized crime], *Przegląd Policyjny* 2012, no. 1, pp. 107-122). This was also due to the Habilitation Candidate's involvement in the works of the Polish Platform for Homeland Security association where practitioners of law enforcement and criminal justice as well as scientists – humanists and engineers strive to develop technologies for state agencies intended to ensure security and public order.

As a part of the project, on the initiative of the Habilitation Candidate criminalistic research, the first of this type in Poland, was conducted on contemporary technologies used by state agencies in the fight against organized crime. As a part of the research, three groups of respondents were selected. It was assumed that the group with the most extensive knowledge on the use and suitability of technologies in the fight against organized crime is

persons who are involved in this effort on a daily basis. Such a group comprises officers of the Central Bureau of Investigation of the National Police Headquarters, public prosecutors from appellate regional public prosecutor's offices, and judges of criminal divisions of appellate courts.

In the case of police officers, survey packets (with 20 surveys in each) were sent through the Central Bureau of Investigation to each of the field commands and local units (a total of 320 surveys) (W. Filipkowski, "Rozwiązania technologiczne w pracy policji na podstawie badań ankietowych" [Technological solutions in the work of the police based on survey research], *Przegląd Policyjny* 2010, no. 1, pp. 71-89). Each of the unit commanders indicated a group of up to 20 officers working under his command with the most extensive experience in the fight against organized crime. Other respondents were persons working in various departments of the commands and involved in the fight against organized crime. The surveys were received by mail in the period between 15 September and 15 October 2008. This way, the research material, comprising 245 surveys, was obtained; all in all, 76.56% of all the respondents who have received the surveys filled them out and returned them.

Also, the surveys were sent to public prosecutors working in appellate public prosecutor's offices (Department V for Organized Crime and Corruption) and regional public prosecutor's offices (investigation departments and economic crime departments) (W. Filipkowski, J. Pogorzelski, "Technological aspects of the fight against organized crime in the opinion of public prosecutors", in: E. W. Pływaczewski, ed., *Current Problems of the Penal Law and Criminology*, LEX a Wolters Kluwer business, Warsaw 2012, pp. 135-151).

Due to the changes in the organization of the departments for organized crime, the surveys were sent and received by mail in the second quarter of 2010. The surveys were sent directly to organizational entities of the public prosecutor's offices. The research covered 55 surveys from appellate public prosecutor's offices and 299 surveys from regional public prosecutor's offices. It is estimated that at the time the research was conducted, the entire population of the first group of respondents was about 126 persons and of the second group – approximately 652 persons. Thus, the research covered 43.65% of public prosecutors in the first group and 45.85% of public prosecutors in the second group.

The second study group was judges (W. Filipkowski, "Technologiczne aspekty walki z przestępczością zorganizowaną" [Technological aspects of combating organized crime], in: J. Kasprzak, B. Młodziejowski, eds., *Wybrane problemy procesu karnego i kryminalistyki* [Selected problems of criminal process and criminalistics], Warmia i Mazury University in Olsztyn, Faculty of Law and Administration, Olsztyn 2010, pp. 253-273). The surveys were sent and received by mail in the second quarter of 2009. Packages with appropriate numbers of surveys were sent to Presidents of the Criminal Divisions of Appellate Courts in all parts of Poland with request to distribute them to all the judges. At the time of the research, approximately 135 judges worked in criminal divisions of appellate courts. The total number of the surveys filled out and returned by the respondents from all the appellate courts in Poland was 45. Thus, the survey covered one third of the entire population.

The study was aimed to collect the opinions of selected groups of respondents concerning their contacts with new technologies in their work connected with fighting organized crime. The objectives of the research were to collect the respondents' opinions

about the presence of such technologies in their work, to determine how the existing solutions can be improved, and to indicate solutions that are the most desired and useful in their work.

The general subject pertained to the type and frequency of the respondents' use of technological solutions aimed to facilitate the fight against organized crime. The first detailed problem was evaluation of the existing situation with regards to the effectiveness of the use of new technologies in the work of law enforcement and criminal justice agencies. It was assumed that the respondents' answers could be the result of their professional experiences, their theoretical knowledge, as well as their knowledge of technical solutions used in other countries. Another research problem was the issue of the newly designed and future technological solutions intended for law enforcement and criminal justice agencies. Consequently, the following questions were asked: What are the solutions expected by the respondents? Which of the technologies given facilitate their work and improve their effectiveness?

A.1. Contemporary technologies

The respondents were asked to indicate, based on their professional experiences, the technological support they have obtained in their work related to the fight against organized crime. The list was elaborated based on information received during informal interviews conducted with practitioners working in law enforcement and criminal justice. The first group comprised technologies known in criminalistics, namely:

- localization of persons (using GPS and BTS);
- criminal analysis of capital and personal ties;
- analysis of the history of bank accounts and financial flows; and
- access to computerized databases with information on persons, events, and objects (hereinafter referred to as computerized databases).

The second group included two technologies supporting the work of law enforcement agencies in purely technical aspects:

- remote interrogation of witnesses (teleconference); and
- sending information electronically.

The respondents were also able to add other types of technological support that were not included in the list they were presented and to evaluate them. However, they took advantage of this possibility only rarely.

What was visible was significant differences between groups of respondents with regards to contacts with new technologies in their work connected with the fight against organized crime. Of note is the fact that it was public prosecutors who had the most extensive contacts with new technologies, actually regardless of their type. The judges were on the other extreme. Of course, this was due to the unique characteristics of the work of each of the respondent groups. It appears that the result of the study involving the prosecutors group was connected with the fact that they used the products achieved by using new technologies at the stage of operational-reconnaissance activities conducted by law enforcement agencies and had their own technical tools, such as computerized databases and analyses prepared by analysts working at public prosecutor's offices.

There were also differences in the types of technological support that was useful in their work. Therefore, little wonder that teleconferences were not as commonly mentioned by

police officers as they were by judges. What is surprising is the lowest rank of this technology in the opinion of public prosecutors. On the other extreme there were technologies intended for locating persons, criminal intelligence analysis, and access to databases, which were familiar to a much larger percentage of respondents in the police officers group than in the judges group. This was also connected with their scopes of duties.

In the case of police officers, their responses could be divided into three groups depending on their contacts with specific technologies. Most respondents (over 80%) had encountered access to computerized databases with information on persons, objects, and events, as well as localization of persons using the GPS technology or the GSM triangulation. The practice of police work indicates that the databases mentioned by the respondents were databases operated only by the Police, databases operated by other state bodies, as well as foreign databases operated by international institutions. Access to private databases was usually possible for a fee, which effectively limited access to them. On the other hand, in particular during the operational-reconnaissance activities, the possibility to localize persons of interest to the Police was immensely important.

The second group of responses comprises three elements: criminal intelligence analysis, capital ties, personal ties, transfer of information electronically, and analyses of bank account transaction records and financial flows. Of note is the fact that the respondents had encountered various forms of criminal intelligence analysis. It was one of the most important instruments available to the Police in its fight against complex economic crimes and crimes committed by criminal organizations.

In the course of criminal proceedings, judges had encountered technical solutions or the products of their use. They had the form of evidence or information about evidence, or only facilitate the presentation of proof. They were used at the stage of operational activities, preparatory proceedings conducted by the public prosecutor's office or another agency conducting the proceeding, or at the court proceedings stage.

The technologies listed were mostly connected with the preparatory proceedings stage or even the operational activities; therefore, a much smaller percentage of respondents in this group, compared to the other groups, declared that they had encountered such technical solutions. Relatively the most frequently used, according to the respondents, was criminal intelligence analysis pertaining to bank account transaction records (nearly 65% of the respondents), followed by localization of persons and criminal intelligence analysis pertaining to capital and personal ties (approximately 50% of the respondents). Only the third in the ranking was the technology that could be used by judges themselves, namely remote interrogation (over 40%). The respondents most often encountered access to computerized databases containing information on persons, objects, and events.

After the respondents provided information on the types of technologies they had encountered, they were asked to provide information on the frequency of their use. It can be concluded, with some risk, that the results concerning the frequency of use of various technologies in criminal proceedings pertaining to organized crime were partly confirmed by the results of this research.

Because in most cases, the technologies were relevant to the work of the Police, it is no surprise that the respondents who were police officers indicated that they used them

"often" or "very often." The only exception was remote interrogation. In the case of the remaining research groups, their members expressed their opinion that they encountered such technologies "often" or "moderately often" in cases pertaining to organized crime (public prosecutors) and "moderately often" and "rarely" (judges). Again, this can be explained by the characteristics of the tasks that they performed. The frequency of presence of technologies was the lower the advanced was the stage of criminal proceedings. It was higher at the preparatory proceeding stage than at the court proceeding stage.

In their work, police officers most often used various databases. Less often they used localization of persons, criminal intelligence analysis, and transfer of information electronically. To an extent, the results were similar to those obtained in the public prosecutors group. The technology that the latter group used often was databases, as they can access them on their own. Less frequent was criminal intelligence analysis, which is not only submitted by the Police but also performed for specific criminal proceedings by analysts working at public prosecutor's offices.

On the other hand, from the point of view of judges, the aforementioned types of technologies were used in cases involving organized crimes moderately often or rarely. This could be due to the fact that not all products of the use of those technologies were considered as evidence in criminal cases. In the opinion of judges, localization of persons and analyses of data obtained from various databases were moderately often used in criminal cases. The remaining technologies were used „rarely." What is surprising is the incidental use of remote interrogation of witnesses and transfer of information electronically.

To start the discussion of usefulness of the aforementioned technological solutions in cases pertaining to organized crime, it must be stated that all of those solutions have been considered by all the respondents as "very useful" or "useful." This means that a large majority of the respondents confirmed that their use in criminal proceedings is justified and advisable, and that it leads to achieving the assumed benefits. A large majority of the respondents stated that the enumerated technologies were "useful."

As far as electronic transfer of information and remote interrogation of witnesses are concerned, the results were similar, fairly low, in all the respondent groups. Police officers found technologies enabling localization of persons and access to computerized databases to be the most useful. Public prosecutors, on the other hand, found criminal intelligence analysis, enabling the study of capital ties, personal ties, bank account transfer records, and capital flows, to be the most useful. In other words, the benefits of technological support were more appreciated by representatives of law enforcement agencies than by representatives of the judiciary.

A.2. Proposals concerning technological solutions.

The respondents were asked to identify technologies that were not enumerated in the questions they were asked concerning proceedings in organized crime cases. This question was an opportunity for the respondents to point at shortcomings in the current system of law and at the limitations in access to technologies. Unfortunately, only a few respondents in each of the research groups took advantage of this opportunity. This could have been due to their positive opinions about the current level of saturation with technologies intended to support

the fight against organized crime, to lack of clear and precise opinions in this area, or to the respondents' unwillingness to answer open-ended questions.

In the police officers group, only 33 of the 245 respondents provided an answer to the open-ended question. The answers given can be divided into the following groups:

1. access and functioning of the existing computerized databases;
2. level of technological advancement of the equipment used by the police;
3. cooperation with mobile telephony network operators.

The most urgently needed change that was identified was to increase the number of databases that would be accessible to police officers either directly or through authorized persons. Such databases would be not only databases operated by the police but also databases of other government agencies (to include foreign ones). The respondents mentioned, among others, the databases of tax and customs authorities, the Border Guard, the Social Insurance Institution, and the National Health Fund. Another recommendation was to establish a single common database for all government agencies involved in the fight against organized crime. The officers also admitted that it would be helpful if they could access the databases of private, commercial entities, to include ones accessible for a fee. The type of database that was identified by the largest number of respondents was databases of mobile telephony network operators. Bank databases were identified by a few respondents. Another item that the respondents pointed at was access to CCTV recordings, cash machine camera recordings, etc.

Police officers also indicated a number of defects in the existing databases. They provided specific examples, such as the missing records of passenger and cargo vehicles. On the other hand, they had no access to the database containing information on persons who have been detained and imprisoned, and on persons who have crossed the national border. They also recommended abandoning the written bureaucratic procedures required to obtained access to certain databases in favor of electronic access. They identified this as a chance to speed up the work of law enforcement agencies and to reduce the costs of their functioning.

Police officers indicated that they lacked the possibility to search databases automatically based on advanced search criteria, to limit the size of groups, for instance, persons or vehicles, in order to perform analyses on the basis of partial data. Currently, the time it takes to obtain answers to questions submitted to existing databases during investigations is very long. The respondents indicated that the design of the data structure was based on old software solutions and, consequently, some of the existing databases contained data that was no longer relevant. At the same time, they did not contain other data categories that were needed at present. The structure and the format of older police databases have not changed at all.

The second group of issues was related to the relative obsolescence of the equipment used by the Police, which demonstrates its technological backwardness, taking into account the technologies that were available in the market at that time. The Police lacked even basic computer equipment. In the opinion of the respondents, Police information technology systems were too slow and were not capable of processing large quantities of data. There were also problems with the speed of information transfer in such systems. Also, the police officers wondered why electronic mail and other services are used so rarely in order to monitor the

contents of the Internet, to search for information, and to send digitalized case files. Sporadically, the respondents mentioned such issues as the lack of mobile access to databases in their vehicles, planting of GPS devices that enabled their detection by targets or even bystanders, and rare use of directional microphones or cameras.

The third group of responses pertained mostly to problems in the cooperation with mobile telephony network operators and the criminals' use of mobile telephony in their activities. Many respondents recommended that they should be granted direct access to the operators' databases in order to perform such activities as tapping, obtaining call history records, localization of telephones, or ad hoc clarification of unclear or lacking data in order to minimize the flow of paper documents. Some mobile telephony networks did not have proper technical infrastructure for localizing telephones (the location given is very inaccurate) or for telephone tapping. Police officers also recommended specific solutions to their problems. One of them was that courts would give wiretapping orders not for specific telephone numbers but for persons. Moreover, in the opinion of the respondents, wiretapping was not effective as criminals use many phones, mostly prepaid ones. A suggested solution to this problem was using a device for localizing active telephones in a given area in order to determine the new telephone number. One respondent expressed some hope that the current level of technology used by the Central Bureau of Investigation of the National Police Headquarters was sufficient.

This question was answered by only 57 public prosecutors of appellate and regional public prosecutor's offices. Respondents from appellate public prosecutor's offices indicated, among others, the need to broaden and speed up (by making it less formal) the access of prosecutors to existing databases, to include those operated by the Police, to establish additional databases and with the prosecutors having direct access to them, to create a system that would enable automatic transcription of speech, and to make analysis programs related to criminal proceedings operated by various institutions uniform so as to facilitate data processing. Three respondents from appellate public prosecutors' offices found the existing technological and information technology solutions as sufficient and stated that the problems with their use are due to the shortage of funds or lack of properly trained staff.

The respondents from regional public prosecutor's offices also indicated the need to expand access to databases. Also, they emphasized the need to increase the number of certified workstations and wiretapping equipment, to provide Internet access to public prosecutors, to increase the number of specialists and analysts in order to operate special criminal intelligence analysis software, to equip public prosecutor's offices with equipment and software enabling properly securing information technology data in criminal proceedings so as to avoid the need to assign experts. Four respondents found the existing information technology solutions to be sufficient, but they also emphasized the need to better train public prosecutors in the area of their applications and ways of use.

Of the entire group of 45 respondents in the group of judges from criminal divisions of appellate courts, only 4 persons answered this question. Three of them stated that there was no need to introduce any new technological solutions to support the conduct of proceedings in cases involving organized crime. One respondent expressed his support for developing

solutions that would enable localizing directly from the courthouse and would limit the use paper documentation in criminal cases by replacing it with documentation in electronic form.

A.3. Anticipated directions of research and development.

The survey was also an opportunity for potential future users of new technological solutions to discuss the objects of scientific research in the area of technology and to evaluate their usefulness in the fight against organized crime. The respondents were asked to rank, based on their professional experience, several technological solutions presented to them from the most to the least needed in cases involving organized crime. The respondents were also able to recommend other types of technological support that were not included in the list they were presented and to evaluate them.

It must be noted that a part of the technical solutions presented in the question were mentioned by some respondents as ways to solve the problems they encountered in their professional work. None of the solutions was found by any of the respondent group as the most needed or the least needed. This may indicate that the directions of research performed by the research teams in the framework of the Polish Platform for Homeland Security have been selected in line with the needs of the potential final users. The subjective approach of the respondents to the technological solutions is not surprising. The solutions that were the most needed by them were those that could directly facilitate their work.

The results were similar in both groups. The differences were due to the professional experiences of the different groups of respondents. In the case of police officers and public prosecutors, the respondents indicated that the most needed solutions were tools for automated criminal intelligence analysis (based, among others, on artificial intelligence), which would cover telephone billing records, financial transactions, and ties within criminal groups. The judges, on the other hand, mentioned the so-called “electronic files” intended to be used in criminal proceedings. This does not raise any concern as the respondents directly encountered files in criminal cases, which are still in the paper form. This solution would facilitate their work and, consequently, is the most needed according to the respondents. The participating police officers and public prosecutors ranked this solution behind criminal intelligence analysis.

The postulates made by all respondents concerning automation of the process of performance of criminal intelligence analysis are not surprising, given the number of persons and events that need to be analyzed during proceedings involving organized crime. Implementation of this solution can significantly facilitate determination of directions of specific preparatory proceedings and speed up the achievement of their objectives.

According to the respondents, solutions intended to provide purely technical support to government bodies were the least needed. The responses provided by public prosecutors and judges concerning those technological solutions were very similar. Automatic transcription of speech could bring a revolutionary change in the preparation of reports from court hearings. In this case, too, the respondents declared that these instruments were more needed than other technologies. The lease needed technological solutions, according to the respondents, were tools for automatic translation of speech from foreign languages into Polish and tools for deciphering communication between criminals.

A.4. Conclusions.

Besides the criminalistic conclusions presented above, the following general propositions concerning the methods of research on the technological solutions to be used by government bodies responsible for ensuring security and public order and for administration justice were formulated:

- At the stage of designing of those solutions it is necessary to involve future potential users, in order to ensure that the prototypes match the needs of the users to the maximum extent possible.
- Lawyers should be actively involved in the works of the teams designing the technological solutions to be used in the area of security and administration of justice. Their tasks should include making the engineers aware of the existing legal constraints and proposing changes in the current laws in order to enable using the most effective technological solutions.
- The engineers, who in their work do not take into account the legal aspects of the problems faced by law enforcement agencies and the judiciary, can discover new and potentially more effective ways to solve those problems.
- Representatives of law enforcement agencies and the judiciary should not be concerned about new technological solutions that can speed up and make more efficient the performance of numerous tasks. Their criticism should be constructive and free from personal prejudices, habits, and fears of new technologies.
- Financial constraints can be overcome by using funds available in Poland (e.g. from the National Research and Development Center) and abroad (in particular on the level of the European Union), as well as by forming public-private partnership or by commercialization of the scientific research.

Re. B. Evaluation of usefulness of evidence obtained by using technological solutions at the stage of operational-reconnaissance activities, with particular focus on criminal intelligence analysis.

The same respondent group in the second part of the prepared research tool was asked to express their opinion about the legal and organizational instruments in the system of prevention and suppression of organized crime. Only the results of this part of the research will be presented as the respondents provided their opinions concerning the use of, among others, results of criminal intelligence analysis as evidence.

The first question in this part of the survey concerned evaluation of the frequency of use and usefulness of the evidence obtained by way of operational-reconnaissance activities. The following list was presented: wiretapping, personal sources of information (informers), covert recording of video material, covert monitoring of movement of persons, room tapping, electronic correspondence control, mail control, criminal intelligence analysis, and controlled handing of financial benefits (bribes).

Officers of the Central Bureau of Investigation of the National Police Headquarters concluded that of the 9 items only evidence from personal sources of information, wiretaps, and covert monitoring of movement of persons were more useful than evidence obtained as a result of criminal intelligence analysis at the stage of operational-reconnaissance activities. In this group, only the evidence from personal sources of information (informers) was used more

often than the evidence obtained by way of criminal intelligence analysis (W. Filipkowski, "Prawne i organizacyjne instrumenty zwalczania przestępczości zorganizowanej w opinii funkcjonariuszy Centralnego Biura Śledczego" [Legal and organizational instruments for fighting organized crime in the opinion of officers of the Central Bureau of Investigation], *Białostockie Studia Prawnicze* 2009, book 6, pp. 136-164).

The same question was asked of a group of public prosecutors from appellate and regional public prosecutor's offices (W. Filipkowski, J. Pogorzelski, "Legal instruments intended for the fight against organized crime in the opinion of public prosecutors", in: W. Pływaczewski, ed., *Organized Crime and Terrorism. Reasons – Manifestations – Counteractions*, University of Warmia and Mazury, Olsztyn 2011, pp. 89-109). In the case of the respondents from the former group, most opinions about evidence from wiretaps, personal sources of information (informers), and criminal intelligence analysis were positive. The results obtained in the latter group were similar. The respondents from regional public prosecutor's offices had higher opinions of evidence obtained by way of criminal intelligence analysis than of evidence obtained from personal information sources (informers). Such evidence was used more often during preparatory proceedings in cases involving organized crime than in other operational-reconnaissance activities.

Because none of the surveyed judges had encountered in his or her professional work results of criminal intelligence analysis, they did not evaluate the suitability of evidence obtained by using this tool (W. Filipkowski, "Ocena wybranych instytucji służących zwalczaniu przestępczości zorganizowanej" [Evaluation of selected institutions charged with combating organized crime], *Ruch Prawniczy, Ekonomiczny i Socjologiczny* 2010, book 2, pp. 157-172).

Re. C. The most recent information technology solutions that can improve the effectiveness of actions undertaken by law enforcement agencies, security services, and criminal justice.

An important element of research work was the possibility to become familiar with the most advanced technical solutions, in particular information technology solutions that can be used in the work of law enforcement agencies, security services, and the judiciary. This was possible thanks to the Habilitation Candidate's involvement in the research and development projects performed together with scientists in the field of computer science. The Habilitation Candidate worked the most extensively with the staff of the Intelligent Information Systems Group of the Department of Information Technology, Faculty of Information Technology, Electronics, and Telecommunication of the AGH University of Science and Technology in Kraków. The scientific work discussed here has resulted in a number of publications corresponding to the subject matter of this summary.

C.1. Analysis of financial flows.

Contemporary technological solutions can be used successfully in the area of security and public order. Experts from both fields of knowledge need to cooperate in this area. This is true in the case of identification of suspicious transactions involved in money laundering and financing of terrorism, as well as in fraud and deceitful extraction of money (R. Dreżewski, W. Filipkowski, J. Sepielak, "Analiza przepływów finansowych" [Analysis of financial

flows], in: E. Nawarecki, G. Dobrowolski, M. Kisiel-Dorohinicki, eds., *Metody sztucznej inteligencji w działaniach na rzecz bezpieczeństwa* [Artificial intelligence methods in actions aimed to improve security], AGH, Kraków 2009, pp. 81-102). As the co-author of the aforementioned publication), the Habilitation Candidate has prepared a comprehensive list of money laundering methods and techniques currently used by criminals. Secondly, the Habilitation Candidate has determined the functionalities of the information technology system that should be implemented in order to make it an effective tool in the hands of analysts of law enforcement agencies, security services, and public prosecutor's offices. The Habilitation Candidate's recommendations have been implemented as a plug-in of the LINK platform developed by a research team from the AGH University of Science and Technology. This is a criminal intelligence analysis tool that can be used successfully to detect such money laundering techniques as distribution and collection box, structuring, and quick deposit and withdrawal. The platform uses search algorithms, the so-called sequence miner used in data mining.

The work on the system is in progress. The results of further stages of the works have been described in another publication (R. Dreżewski, W. Filipkowski, J. Sepielak, "System supporting money laundering detection", *Digital Investigation*, June 2012, Volume 9, Issue 1, pp. 8-21). The growing demand of law enforcement administration and the judiciary for information technology tools for processing bulk quantities of data has been the basis for research on criminalistic and process-related aspects of the use of such tools. In the present publication the Habilitation Candidate has made a brief presentation of the issue of use of the most recent technological solutions used in elaboration of criminalistic analyses to be used in criminal proceedings. These include in particular technologies based on artificial intelligence, machine learning, and data mining. To an extent these tools can take the place of people in schematic, repeated activities performed in accordance with specific algorithms. Machines can make conclusions based on the data entered into them or by using expert knowledge in their algorithms which, given their higher computational capacity, compared to people, may turn out to be an effective tool for analyzing bulk quantities of data. This is why the concept of evidence from academic research should be discussed. In the aforementioned publication, the Habilitation Candidate has presented criteria elaborated by prof. zw. dr. hab. T. Tomaszewski. The scientists working to expand this field of knowledge need to refine and elaborate procedures and methods of criminal intelligence analysis in a way that will enable using the effect of their work as evidence in criminal cases. The information technology part of the publication is a description of a procedure of application of the Money Laundering Detection System as a part of the LINK platform and of the use of solutions and results of experiments performed in the area of implemented algorithms of clustering of financial transactions and the validity of the adopted method of visualization of the results of the analysis.

It must be emphasized that data mining, as a part of the concept of knowledge discovery in databases, has become the most important among the analyzed technologies. This is demonstrated by a number of examples of its use in criminalistics abroad, for instance for the purpose of:

- performing criminal intelligence analysis (both operational and strategic);

- profiling of perpetrators of crimes;
- identifying dangerous persons (potential assassins and terrorists);
- identifying suspicious transactions;
- supporting the process of dislocation of patrols;
- search for attempted attacks against critical infrastructure through the Internet;
- detecting anomalies in the behavior of persons; and
- analyzing links between persons in social media.

Data mining enables identifying certain, frequently unexpected or unknown, patters and relations within specific sets of data by performing various manipulations of the data, e.g. by structuring, classifying, regression, etc. (W. Filipkowski, Report from the International Conference on the DETECTER Project, entitled "Data Mining and Human Rights in the Fight Against Terrorism" (Zurich, 10-11 June 2010), Przegląd Policyjny 2010, no. 4, pp. 209-216). In the aforementioned publication, the Habilitation Candidate not only presents the subject-related aspects of the conference but also tries to popularize the idea of data mining research in Poland. Such research is very important as the use of data mining involves the need to solve a number of legal and criminalistic problems, to include those related to restrictions in laws on personal data protection and to methods of use of data mining in preparation of criminalistic analyses. Thanks to the Habilitation Candidate's initiative, the problem of data mining use by law enforcement agencies, security services, and the judiciary in criminal intelligence analyses has become one of the research areas included in the current development project managed by prof. zw. dr. hab. E. W. Pływaczewski, entitled "Modern technologies for and in the criminal process and their use – technical, criminalistic, criminological, and legal aspects."

C.2. Processing of documents for the needs of criminal proceedings.

Another area that can become more efficient thanks to the use of information technology tools is criminal procedure or, more specifically, efforts to create the concept of the so-called electronic files (W. Filipkowski, B. Śnieżyński, "Zarządzanie dokumentami tekstowymi w postaci elektronicznej" [Management of text documents in electronic form], in: E. Nawarecki, G. Dobrowolski, M. Kisiel-Dorohinicki, eds., *Metody sztucznej inteligencji w działaniach na rzecz bezpieczeństwa* [Artificial intelligence methods in actions aimed to improve security], AGH, Kraków 2009, pp. 255-268). Such a solution is important to the criminal process for purely technical reasons, but it leads to a number of legal, organizational, and personnel-related problems. The Habilitation Candidate's role in elaboration of this solution was to present an outline of the laws pertaining to the barriers to introduction of electronic documentation of criminal proceedings and to elaborate a list of functionalities of the prototype of the document management system that was being developed. The most important functionalities are:

- search through case files to find specific names of legal entities, locations, addresses of registered offices/seats or places of residence (registered residence), times of events or of preparation of documents, times of performance of activities, objects involved in a case and their description, types of documents, etc.;;
- search for and scanning through multiple documents pertaining to specific persons or objects;

- description of parts of text using code words and comments, creation of references, defining hierarchies of contents according to their usefulness or degree of importance to specific cases;
- ease and low cost of making spare copies, preparation of copies of documents for parties, exclusion of materials for separate proceedings, and merging of proceedings;
- ease and low cost of providing access to case files to authorized persons (e.g. to the parties) without the risk of their damage, destruction, change of contents, etc.;
- easier control of access to case files;
- replacement of physical transport of case files with electronic access connected with monitoring and supervision;
- substitution of physical archiving with digital archiving of case files;
- automatic creation of indices and tables of content of case files;
- automatic monitoring of presence of all formal elements of specific types of documents that are legally required;
- quicker and automatic creation of periodic statistical tables for all cases conducted in a given division of a court or unit of a public prosecutor's office; creation of statistical tables in an *ad hoc* manner according to pre-set criteria; and
- comparison of the contents and identification of discrepancies and consistence in collected information.

The prototype of the document management system elaborated by a research team at the AGH University of Science and Technology did not have all of the aforementioned functionalities. Consequently, the first area that the researchers focused on was the issue of selection of methods and algorithms of generation of keywords from the documents and their classification. For this purpose, three algorithms (JRip, Naive Bayesm, and J48) were tested; the tests demonstrated that the second algorithm was the most effective.

C.3. Analysis of information acquired from open information sources, with particular focus on the Internet.

The next area of application of new technologies is acquisition, gathering, and analyzing of information in support of maintenance of security and public order. In the nomenclature of Polish security services and the Police, these activities are referred to as 'white espionage' and in the English-language literature the term 'open source intelligence' is used. Such activities may constitute a part of either operational-reconnaissance or process activities. The research conducted by the Habilitation Candidate concerned the techniques and methods of use of the Internet in the work of law enforcement agencies, security services, and the judiciary, also in the context of legal permissibility of information processing by those state bodies. The Habilitation conducted this research in 2010 and 2011 as a part of the development project that he managed, entitled "Legal and criminological aspects of implementation and use of modern technologies intended for strengthening internal security."

The Habilitation Candidate conducted the first survey study in Poland on two groups of police officers (W. Filipkowski, "Wykorzystywanie otwartych źródeł informacji. Wyniki badań ankietowych" [Use of open information sources. Survey research results], in: W. Filipkowski, W. Mądrzejowski, eds., *Biały wywiad. Otwarte źródła informacji - wokół teorii i praktyki* [Open source intelligence – on the theory and the practice], C.H.Beck, Warsaw 2012, pp. 135-163). The total number of respondents participating in the study was 263. The study

pertained to the theoretical and practical aspects of the use of information coming from open sources in the work of police officers. The problems analyzed as a part of the study included: understanding of the term of open source intelligence, technical support in the area of acquisition and analysis of open source intelligence, the usefulness of open source intelligence in the work of the Police, selected legal issues, organizational issues pertaining to the conduct of analyses, and the importance of information found on the Internet.

The results of the study indicated that the respondents are familiar with the term open source intelligence and their understanding of it is correct. Based on all the responses given by the participants of the study, the following definition of open source intelligence could be defined: acquisition, monitoring, checking, and analysis for official purposes of information about persons, events, occurrences, and items coming from generally accessible, open sources, such as mass media (the press, the Internet, television, radio), statements of state, public, and private institutions, databases, books, commercials, and private persons. The definition comprises 3 elements, namely information sources, their characteristics, and types of activities that they are subject to.

Besides the Internet, radio, and television, the respondents identified the press as an open source of information. Other sources were also mentioned; these included books, announcements, conversations with people, as well as commercial or open, private or public databases. The respondents had some doubts as to the nature of public databases.

The respondents declared that they acquired information by becoming familiar (e.g. by reading) in a traditional and simple manner. The respondents most importantly read information or talked to other persons. Some of them actively sought or searched for information. However, very few of them mentioned that they constantly or regularly monitored sources in order to detect changes in the contents of information, for instance pertaining to the same events of persons, within a certain timeframe. Based on the respondent's answers, one can conclude that they frequently used open information sources in their professional work. They used them more frequently than information from operational or process activities (or techniques).

The respondents did not use any special software in order to acquire and analyze open source intelligence. Such software includes standard software available on any desktop computer, such as Internet browsers; this suggests that the Internet is an important source of information. The situation was the same in the case of analysis of intelligence.

In the opinion of nearly one in two respondents, information from open sources was helpful both during the operational activities and during the process activities (in particular during preparatory proceedings). At the same time, over 40% respondents restricted the use of such information only to operational activities.

Moreover, a part of the respondents indicated that they used such information most often in economic crime cases. They used it less often in common crimes or crimes of corruption. Most of them did not use such information in cases involving organized crime.

One of the indicators of usefulness of open source intelligence was the ability to use it to initiate operational or process activities. The ubiquitous presence of the Internet and the quantity of information it contains appear to give a new meaning to the term 'open source intelligence'. Open source intelligence is a modern source of information about crimes. This

way, the stimulating role of such information in relation to the activities of state bodies is achieved.

Based on the responses given by the participants of the study, the Habilitation Candidate came to the conclusion that open source intelligence more often initiates operational activities than process ones. Most likely this is due to the low credibility of such intelligence, which prevents conducting at least verification activities. On the other hand, open source intelligence is likely enough that it justifies starting operational activities.

Another issue related to the usefulness of open source intelligence is connected with disproving or proving of information from other sources, in particular operational sources. The results obtained in the study do not enable solving the problem in an unequivocal manner. It appears that open source intelligence cannot be used to disprove information from operational sources or that few respondents have encountered such situations. On the other hand, it can be clearly seen that many respondents considered such information as capable to confirm the verity of information obtained from other sources.

Few respondents saw technical problems in acquisition of open source intelligence. Those who were willing to share their opinion on this problem pointed at limited or lacking Internet access, as well as financial and technical limitations. A few indicated inadequate training and knowledge pertaining to acquisition and analysis of open source intelligence. The few legal restrictions mentioned by the respondents included low value of such information as evidence (due to its low credibility).

A large majority of the respondents were of the opinion that all police officers should acquire information from open sources. This opinion was shared by officers regardless of the level of their units in the Police organization. Moreover, in order to use such information effectively, every police officer must undergo training on acquisition of open source intelligence.

Another part of the study pertained to selected legal and technical matters. The respondents understood that they should not limit their analyses to a single source of information. In the opinion of over a half of all respondents, acquisition and analysis of open source intelligence constituted an operational-reconnaissance activity.

Also, over 40% of the respondents did not have fixed opinions regarding the need for legal changes in order to refine the rules for acquiring and analyzing open source intelligence. Some respondents proposed, among others, facilitation of access to private and public databases and changing of laws regulating the work of the Police.

The last part of the study focused on the use of the Internet by Police officers. It turned out that a large majority of the respondents used information acquired from this open source in their work. The research confirmed that, in the opinion of the police officers, access to the Internet was important and useful. At the same time, the respondents emphasized that their access to the Internet at work was limited.

Secondly, the Habilitation Candidate analyzed the ways that the Internet was used by persons who violated law, in particular by terrorists, and the possibilities for technological support to the state bodies involved in their suppression (G. Dobrowolski, W. Filipkowski, E. Nawarecki, W. Rakoczy, “Systemy agentowe i metody sztucznej inteligencji w walce z terroryzmem w Internecie” [Agent systems and artificial intelligence methods in the fight of

terrorism on the Internet], in: K. Indecki, ed., *Przestępczość terrorystyczna, Ujęcie praktyczno-dogmatyczne* [Terrorist Crime. A Practical-Dogmatic Approach], Wydawnictwo WiS, Poznań – Białystok – Łódź 2006, pp. 174-197). In the aforementioned publication, the Habilitation Candidate presented, based on studied documents and available literature, the techniques and tactics employed by terrorists on the Internet, with particular focus on such aspects as terrorist propaganda, training, recruitment of new members, financing of terrorist groups, ensuring communication, and attacks against critical infrastructure.

Based on such categories of behavior, information technology experts proposed a solution that can be used to monitor the Internet. The so-called agent systems are a class of information technology systems that have all the desired characteristics. For over ten years, agent systems have been the object of intensive research conducted in a number of centers worldwide. Even though many theoretical results have been obtained in this area and a number of technological solutions have been developed, there are still a number of open issues, mostly pertaining to the application of such results and solutions.

In another publication prepared based on the available literature, the Habilitation Candidate presented a typology of information sources that can be available to state bodies responsible for suppressing terrorism and the role of analysts (G. Dobrowolski, W. Filipkowski, M. Kisiel-Dorohinicki, W. Rakoczy, "Wsparcie informatyczne dla analizy otwartych źródeł informacji w Internecie w walce z terroryzmem. Zarys problemu" [Information technology support to analysis of open information sources on the Internet in the fight against terrorism. Outline of the problem], *in:* L. Paprzycki, Z. Rau, eds., *Praktyczne elementy zwalczania przestępczości zorganizowanej i terroryzmu. Nowoczesne technologie i praca operacyjna* [Practical elements of the fight against organized crime and terrorism. Modern technologies and operational work], Oficyna, Warsaw 2009, pp. 275-303). Of particular importance to this problem is open source intelligence. Also, the Habilitation Candidate has conducted dogmatic research on the issue of possibility of open source intelligence processing by Polish civilian and military security services. The aforementioned part of the publication enabled formulating general assumptions for the design and implementation of computer support tools. The publication describes how, from general identification and analysis of the functioning of open source intelligence, the requirements were derived concerning a multiagent system for monitoring the Internet and its functioning prototype, which was described in more detail. This also enabled using it in the work of the state security services mentioned in the first part. Although technological support is possible in a much broader scope, the publication is limited to recommendation of solutions that use the Internet as a source of information and accept the "difficult" characteristics of such sources, i.e. their multiplicity, lack of semantic organization, and huge quantity of information they contain. Such solutions include those based, among others, on agent technologies, which include not only appropriate processing parameters, but also the possibility to use artificial intelligence methods, which leads to extensive automation and limited interference on the part of the analyst.

C.4. Further directions of joint research of penal sciences and technological sciences.

The Habilitation Candidate has also conducted research on the directions that must be taken in order to develop legal and technological solutions intended to enhance security and public order (W. Filipkowski, "Nowe kierunki badań nad bezpieczeństwem w Polsce i ich efekty" [New directions of research on security in Poland and their effects], *Białostockie Studia Prawnicze* 2011, no. 9, pp. 261-275). The aforementioned publication was based on the available literature, documents concerning the development research performed in Poland, and reports from research, to include that financed by the National Center for Research and Development. The Habilitation Candidate pointed at the need to conduct research in the following areas:

- Dogmatic research on the need for and way of regulating social phenomena for which no legal instruments and completely new instruments, taking into account changes in the society, various pathologies, and technological progress, have been developed The law remains the most important tool of the state in the area of regulation of individuals and groups of people. The only question is the extent of such regulation.
- Multi-level, comprehensive research on the social phenomena mentioned above. The products of cooperation and the synergies achieved thanks to the efforts of scientists and practitioners from various humanities and technical fields must be used to solve social problems.
- Research on public-private partnership aimed at ensuring security. Reduction of the powers of bodies charged with ensuring public order and security or reduction of their funding and staff leads to private entities naturally filling the void. It is necessary to define the scope of their powers and relations with state bodies, local authorities, etc. This includes the issue of commercialization of results of scientific research in the area of security.
- Better use of generally accessible information (its acquisition, gathering, evaluation, and use), in particular information found on the Internet and in social media (e.g. monitoring and forecasting of events based on entries in social media).
- Integration of databases and information technology systems of different state bodies and shared systems in order to reduce their operating costs and enhance the cooperation among various state bodies.
- Enhancement of interoperability of different information technology solutions offered by various providers to state bodies, for instance by normalizing the information exchange protocols, automating acquisition, analysis, and use of information contained in private and government databases.

Re. D. Research on criminal intelligence analysis in the criminalistic aspect.

D.1. Introductory problems.

The monograph that was initiated and co-authored by the Habilitation Candidate is the crowning of research on state-of-the-art technological and legal solutions used by law enforcement agencies, security services, and the judiciary in the fight against the most important threats to the security of citizens, in particular organized crime and terrorism (P. Chlebowicz, W. Filipkowski, *Analiza kryminalna. Aspekty kryminalistyczne i prawnodowodowe* [Criminal intelligence analysis. Criminalistic and law of evidence aspects],

Wolters Kluwer, Warsaw 2011, 220 pages – monograph was awarded in the XII Edition of Prof. Hanausek's Competition for The Book of the Year in the Field of Forensics in the category Monograph - Jury minutes of the meeting of 02.10.2012 – the official website of the Polish Society of Forensic http://www.kryminalistyka.pl/przedsiewziecia/protokol_konkurs_2012.pdf). It must be emphasized that this research is related to the Habilitation Candidate's areas of interest described in item 5.

From the long list of technical instruments used in the fight against crime, it was criminal intelligence analysis that was selected as the subject of the publication. Criminal intelligence analysis constitutes practical implementation of solutions that are often based on advanced and quickly developing fields of computer science such as artificial intelligence, neuron networks, and knowledge discovery in databases. Also, in the operational and strategic aspects, criminal intelligence analysis is the embodiment of the idea of intelligence-led policing where law enforcement and public order bodies perform their operations based on knowledge. This idea has resulted in the formation of a completely new field of knowledge that, in criminalistics, is referred to as criminal intelligence.

It must be emphasized that the research area studied by the Habilitation Candidate so far has not been the object of in-depth analysis. Since the mid-1990's, in the Polish literature there have been several articles and papers describing the capacity of criminal intelligence analysis. Also, manuals have been published for courses conducted in Police schools on the use of software intended for conducting criminal intelligence analyses.

The difficulties that are connected with the topic of criminal intelligence analysis are due to several factors. First, criminal intelligence analysis can be studied on many levels. On the one hand, it is an investigative method that is now used successfully by formal social control agencies; on the other hand, as it turns out, criminal intelligence analysis goes far beyond investigations and us now used in law of evidence. Thus, theoretically, criminal intelligence analysis is a common area of interest for criminalistics, criminology, and one of the fields of law of criminal procedure, i.e. law of evidence. In criminalistics, criminal intelligence analysis is most often perceived as a method to combat organized or economic crime (operational aspect). On the other hand, criminological aspects of criminal intelligence analysis are rather connected with diagnosis and description of trends in the development of criminal activities (strategic aspect).

The development of criminal intelligence analysis has been left to practitioners working of law enforcement agencies and the judiciary. However, there are no scientific studies of this instruments that makes the detection process and criminal proceedings more effective. It appears that it is the contemporary form of criminal intelligence analysis that enables an appropriate response of law enforcement agencies to the threat posed by organized criminal and terrorist groups.

The current practice demonstrates that its importance is growing and that this trend will continue. This is mostly due to the fact that, in the face of fast social changes caused largely by the technological revolution, the judiciary and law enforcement agencies have to adapt to the new criminal reality. At present, in cases involving organized crime, bulk quantities of data coming from mobile telephony operators, financial institutions, and

government or private databases are used. All the data documents behavior of persons who are the targets of operations of the aforementioned state bodies. These are traces of their activities that must be analyzed and confronted with other information and evidence gathered in operational or criminal cases; however, their sheer quantity prevents their comprehension by single persons or teams. This is why it is so important to use the support of modern technology in the operations of law enforcement agencies, security services, and the administration of justice.

From the academic point of view, of note is the fact that in the existing literature on the subject, the problem of criminal intelligence analysis is discussed to a very limited extent. No in-depth empirical research has been performed to shed light on the practice of criminal intelligence analysis, the directions of its development, and the areas of its potential applications. Also, no theoretical studies have been performed with the goal to answer the basic questions pertaining to, among others, the status of criminal intelligence analysis in the penal sciences, and the utility of its products as evidence, or to define the terms pertaining to criminal intelligence analysis. From this point of view, the research conducted by the Habilitation Candidate is a pioneering research that constitutes a starting point for further research in the fields of criminalistics, criminology, and law. What is more, the results of the research is already being used by information technology research teams who are working on developing criminal intelligence analysis software to be used by law enforcement agencies, security services, and the judiciary.

It appears that all of the aforementioned factors constitute sufficient grounds for selection of the research area. The subject is important and up-to-date, and has not been studied by representatives of penal sciences, in particular criminalistics. Most of all, this is a very practical subject with normative implications, for instance to law of evidence.

The research was conducted in the framework of the development project of the Ministry of Science and Higher Education entitled “Legal and criminological aspects of implementation and use of modern technologies intended for strengthening internal security” on which the Habilitation Candidate was the Project Manager.

Dr P. Chlebowicz, the co-author of the aforementioned monograph, was responsible for analyzing the gathered literature on the subject of procedural law pertaining to criminal intelligence analysis, elaboration of the concept of survey studies in the law of evidence aspects, co-development of the research tool, elaboration of a part of the results of the survey, and elaboration of the conclusions based on the results. The Habilitation Candidate was responsible for analyzing the gathered literature pertaining to criminal intelligence analysis, elaboration of the concept of survey studies in the criminalistic aspects, co-development of the research tool, elaboration of a part of the results of the survey, and elaboration of the conclusions based on the results. Below are presented only the analyses related to the criminalistic aspects and their results.

The object of the research was criminal intelligence analysis as an activity performed in the practice of law enforcement agencies and the judiciary. It was found that criminal intelligence analysis is a phenomenon of dual nature. It is used both as a part of operational-reconnaissance activities and during criminal proceedings. The technical aspects of its use are similar regardless of the types of activities where it is performed. The law only provides for

different ranges of data that can be used in it depending on whether it is performed before or during a criminal process.

Because the actors had access to only very limited theoretical studies of criminal intelligence analysis, they found it necessary to conduct empirical research on this subject. The research focused on two basis research problems. The first was practical use of criminal intelligence analysis by Polish state bodies. The other problem was the permissibility of the use of its products. Consequently, two sets of questions and research hypotheses were elaborated. The grounds for its formulation were not only the literature on this subject but also the interviews conducted earlier with criminal intelligence analysts and the criminal intelligence analyses that the Habilitation Candidate has worked with before, among others in connection with his preparation of expert analyses for criminal proceedings.

In the case of the first research problem, one general research question and eight detailed research questions were formulated. The first research question was: What are the practical aspects of performance of criminal intelligence analysis in Poland?

The detailed research questions were the following:

- What types of criminal intelligence analyses are performed in Poland?
- What software is used to conduct criminal intelligence analyses?
- What range of information is used in the performance of criminal intelligence analyses?
- What types of technical solutions could make the performance of criminal intelligence analyses more efficient?
- What are the objectives of use of the various types of criminal intelligence analysis?
- How is information used for the performance of criminal intelligence analysis evaluated?
- How is the utility of criminal intelligence analysis to law enforcement agencies and the judiciary evaluated?
- What problems are encountered in the course of the different types of criminal intelligence analysis?

The main hypothesis was proposed that the practical aspects of the performance of criminal intelligence analysis include the type of information that the analysts work on and the information technology tools that they have available in their work. Also, the following detailed hypotheses were proposed:

- In Poland, telephone billing records are analyzed the most often.
- Analysts use mostly special software developed by i2 company, named "Analyst's Notebook."
- Analyses are performed mostly on telephone billing records and financial transaction records.
- Access to larger quantities of data in an electronic form would make criminal intelligence analysis more efficient.
- It is not possible to make generalizations regarding the overall objective of criminal intelligence analysis as the objectives of its various types are different.

- Information used for the performance of criminal intelligence analysis is evaluated as of good quality and complete.
- Criminal intelligence analysis is considered to be very useful for law enforcement agencies at the stage of operational-reconnaissance activities.
- The problem that occurs in the course of criminal intelligence analysis is access to larger quantities of data in an electronic form.

It was found that a diagnostic survey would be the best method to achieve the assumed research objective. Such a survey would make it possible to learn about the knowledge or opinions of large groups of respondents in a relatively short period of time. Taking into account the scope of the research questions, it was necessary to precisely define the populations to be studied. It was found that the persons who have the most extensive knowledge and experience in the performance of criminal intelligence analysis are those who perform it as a part of their duties. The study was performed by gathering the opinions of criminal intelligence analysts working in law enforcement agencies, security services, and public prosecutor's offices.

The surveys addressed to criminal intelligence analysts contained 24 questions in the main part and 12 in the particulars part. Eight of the questions were closed-ended, three were semi-open-ended, and thirteen were open-ended. The main part comprised two segments. The first segment, consisting of 6 questions, focused on introductory problems. The other segments of the survey focused on analysis of telephone billing records, financial flows, personal ties, and events. In each of them, a similar set of questions was asked with the aim to determine the objective of criminal intelligence analysis, the information used in the specific types of analysis, the opinions regarding the completeness, quality, and utility of information, as well as the opinions regarding the utility of the results of analysis and the problems in the performance of the specific types of analysis. The particulars section of the survey contained questions about standard demographic characteristics, such as age, gender, education, and town/city where the respondents work. Also, certain questions were intended to determine the respondents' professional experience. These included questions about the performance by the respondents of court-appointed experts' duties and their participation in dedicated criminal-intelligence analysis training in Poland and abroad.

The research tool used was consulted with representatives of law enforcement agencies and the judiciary who are familiar with the problem of criminal intelligence analysis. During the research, the appropriate official permits for the research was obtained. The principal part of the research was conducted in the 4^{th} quarter of 2009 and the first half of 2010. Even though written requests have been submitted with the question about the number of potential respondents so that an appropriate number of survey forms would be prepared, this information was provided. At the same time, the researchers were assured that in the case of the Police, the Border Guard, and the Central Anti-Corruption Bureau, all the survey forms were handed to the criminal intelligence analysis in those institutions. Also, the researchers were assured that cases where the survey forms were not filled out were very sporadic and were due to random occurrences, such as illness, leave, or training. It was assumed that the survey forms were filled out by all or nearly all respondents in the assumed professional groups. All in all, the population covered by the research can be defined based on the number

of surveys that were filled out in the respective institutions: Police – 83 surveys, Border Guard - 35 surveys, Central Anti-Corruption Bureau - 17 surveys, and Public Prosecutor's Office - 95 surveys.

D.2. Verification of research hypotheses.

Based on the research results, it can be concluded that the main hypothesis has been confirmed. The research showed that the practical aspects of the performance of criminal intelligence analysis include the type of information that the analysts work on and the information technology tools that they have available in their work. The proposed typology of criminal intelligence analysis according to the type of information has demonstrated that the practical implementations of this tool were different. Also, there were differences in the use of a complete range of analyses by different groups of respondents participating in the study. Moreover, differences were found in the use of supporting information-technology tools.

The first of the detailed hypotheses was confirmed. In each of the professional groups covered by the study, analyses of telephone billing records were performed the most often. This was confirmed in each of the surveyed professional groups. Such data contains a fairly large amount of information that can be used to conduct analyses and to make more extensive determinations than who contacted whom. Examples are analysis of social networks, description of habits and routine behavior, and change of location by phone users, etc. On the other hand, the use of different types of analyses also depended on the experience of the analysts, the scope of responsibilities of the professional group, and legal restrictions on the access to data that could be analyzed. The study pointed at, in particular, the example of the analysts of the Border Guard who, unlike the analysts of the Central Anti-Corruption Bureau, only rarely performed analyses of financial flows.

The second hypothesis was confirmed partly. Criminal intelligence analysts mostly used two types of software: spreadsheets and spreadsheet visualization software. Thus, the fact, mentioned in the literature on the problem, that the "Analyst's Notebook" software developed by the i2 company is the most commonly software used in Poland was confirmed. The software is dedicated software for analyzing and visualizing bulk quantities of data. However, the software could not be used without prior preliminary processing of the data in a spreadsheet. This fact has not been properly appreciated in the literature on the criminal intelligence analysis. The mutual dependence of these two types of software has been very important. This also indicated the scope of knowledge and skills required of criminal intelligence analysts.

The "Analyst's Notebook" software has some strengths and weaknesses, which its users confirmed. The participants of the survey emphasized mostly its functionality related to visualization of analyzed data. This is an important functionality, as it enables understanding bulk quantities of data and finding relations between various data that would be hard to notice using traditional methods. The respondents also pointed at the weaknesses of the software and mentioned that the perfect tool that they would like to use needs to have more database-related functions that would enable more extensive processing of data. The respective modules that extended the capabilities of the software were offered by the i2 company as separate products. The information that can be obtained using such modules can constitute the

foundation for research and development work aimed to develop software that would meet the needs of criminal intelligence analysts.

The third hypothesis was also confirmed. Criminal intelligence analysts worked mostly on data contained in telephone billing records and financial transaction records. The data contained a lot of additional information that could be used in further, more advanced analyses using, for example, data mining methods. The limitations of the human brain related to association and remembering of information were non-existent in the case of information technology tools. In the case of the aforementioned data mining technique, the more data is available for analysis, the better (more precise and reliable) are the results of the technique. What is also important is the fact that in most cases the data is already in the digital form as it is provided by mobile telephony operators and financial institutions.

The fourth hypothesis was not confirmed. The software mentioned the most often by the respondents, regardless of the professional group they belonged to, was software enabling visualization of routes traveled by mobile telephony users. Thus, the importance of data found in telephone billing records was confirmed one more time. The second group of expectations concerned various information technology tools supporting analysts in their performance of criminal intelligence analyses. The respondents expressed their interest is solutions that would make their work easier through automation and acceleration of analyses. Only the third in the order of importance was access to various databases, such as government and ministerial databases, and databases of other law enforcement agencies. The respondents' use of external and ministerial databases, i.e. other governmental databases, was almost universal. This is due to the scope of their authority as law enforcement officers. However, the access to databases operated by other law enforcement agencies is limited. Another group of databases is private databases, to include commercial ones. What was surprising was that the fact that analysts use information found in social networks was confirmed.

The fifth hypothesis was not confirmed. The respondents emphasized, directly or indirectly, that the general objective of criminal intelligence analysis is to systematize and visualize the data defined in their work assignment. However, it is true that the specific objectives of the various types of criminal intelligence analysis are different. Of note is the fact that numerous circumstances were due to the unique characteristics of the different types of data and the extent to which it could be used. The analysts emphasized that quite often the objectives of analyses depended on the needs of the entity who ordered the analyses for their operational-reconnaissance activities or process activities. This clearly depended on the knowledge of the entity on the various options associated with different types of data.

The sixth hypothesis was partly confirmed. This was due to the fact that information comes from diverse sources. Evaluation of their quality and completeness should be performed separately. In the opinion of the respondents, the quality and completeness of data contained in telephone billing records and of the data needed to perform an analysis of personal ties or events were good or average. Their opinions regarding the data contained in financial transaction records were worse. It must be noted that in the case of data used in analyses of telephone billing records and financial ties, the sources were uniform and homogeneous, as they were telephone operators or financial institutions. The sources of data used in analyzing personal ties and events were heterogeneous. In addition to data from the

aforementioned two sources, law enforcement agencies gathered their own data. It appears that the heterogeneity of the sources led to higher opinions of the completeness and quality of the data. Missing or incomplete data from one source could be supplemented or confronted with data coming from another source. Also, regardless of the opinions regarding completeness and quality of data or of the professional groups, all the respondents considered the data to be useful or very useful in the performance of criminal intelligence analyses.

The seventh hypothesis was confirmed. Criminal intelligence analysis is considered to be very useful for law enforcement agencies at the stage of operational-reconnaissance activities. Basically, the respondents found criminal intelligence analysis to be useful at each of the stages, to include in preparatory proceedings and court proceedings. However, by far the largest number of respondents, regardless of the type of analysis and professional group, declared that criminal intelligence analysis is the most useful during operational-reconnaissance activities. This was true even of analysts working at public prosecutor's offices who performed criminal intelligence analyses only for process-related purposes. One must keep in mind that analysts in the other professional groups performed analyses for operational-reconnaissance activities or preparatory proceedings, which was due to the scope of the authority and duties of the different agencies. However, few of them participated in court hearings or learned about the further use of the results of their analyses. This did not stop them from expressing their positive opinions about usefulness of the results of criminal intelligence analysis in court hearings.

The last hypothesis was not confirmed. In the opinion of the respondents, the problem that occurs in the course of criminal intelligence analysis is access to larger quantities of data in an electronic form. In the case of data provided by telephone operators and financial institutions, the basic problem mentioned by the respondents was lack of uniform standards in the way the data is recorded. This leads to the need to manually process the data provided by various institutions to achieve a uniform format using spreadsheets. Only then such data could be imported into the visualization software. Also, the data contained erroneous entries, was incomplete, or described in an incomprehensible manner.

On the other hand, in the case of data needed to perform analyses of personal ties and events, the problems reported by the respondents were connected with shortcomings in the databases used by the analysts. This includes such circumstances as the quality and credibility of data entered by multiple entities, access to databases, and the fact that the knowledge contained in the data is scattered. The respondents also pointed at the fact that they often needed to convert data from paper documents into the electronic form before performing further analyses.

D.3. Postulates resulting from the research conducted.

The results of the research enabled formulating the following postulates:

- The science of criminalistics should pay more attention to criminal intelligence analysis (in particular operational analysis).
- The contemporary form of criminal intelligence analysis is a new area in the 21st-century science of criminalistics. This is why it appears that the scope of criminalistics should be expanded to include information-technology, mathematics, and cybernetics research. There is no doubt that the large capabilities of information technology tools

will soon enable performing criminal intelligence analyses using artificial intelligence methods.

- New research areas should be indicated; these should include, among others: problems related to elaboration of a uniform method of performance of criminal intelligence analyses, to include normalization of analytical techniques), introduction of criteria and requirements for persons performing criminal intelligence analyses (experts in the field of criminal intelligence analysis), definition of parameters pertaining to both the analyzed materials and the information-technology tools used in criminal intelligence analyses.
- Criminal intelligence analysis should be mandatory in complicated and multi-threaded cases.
- Also, simple analytical techniques, based on basic software, should be propagated among the so-called "first line" officers. This way, highly-qualified criminal intelligence analysts should be involved only in the most difficult cases.
- With reference to the aforementioned capabilities, not only operational-level but also strategic-level criminal intelligence analysis should be developed. This is a huge challenge to the government institution even though, as has been mentioned, it is strategic criminal intelligence analysis that can lead to a new quality of the criminal policy of the state.
- The objectives of criminal intelligence analysis are in line with the objectives defined in both the code of criminal procedure and the statutes on the Police. Unfortunately, due to the development of new technologies, there are areas of potential abuse of the power which may take the form of excessive or disproportional surveillance. Thus, it appears that it is necessary to perform research on the ethics in criminalistics.

5. Discussion of other scientific research (artistic) achievements.

The Habilitation Candidate's achievements focus in five areas:

A. Money laundering

A.1. The methods and techniques of the crime of money laundering.

A.2. A system for countering and suppressing money laundering.

A.3. The provisions of the substantive criminal law.

B. Organized crime

B.1. Criminological aspects

B.2. Legal aspects

C. Terrorism

C.1. Legal aspects.

C.2. Forms of terrorist activities.

C.3. Financing of terrorism.

D. Sense of security among citizens in Poland.

E. The methods of the education process

A. The first research area that the Habilitation Candidate has focused on in his academic endeavors is **money laundering, in its criminalistics, criminological, and legal aspects**.

The work performed in this area is a continuation and development of the Habilitation Candidate's research that was the basis of his doctoral dissertation written in 2002 and entitled "Countering money laundering with particular focus on institutions of the financial market," written under the supervision of Professor Emil. W. Pływaczewski. The dissertation thesis, after some modifications, updates, and development of certain threads, was published in 2004 (W. Filipkowski, *Zwalczanie przestępczości zorganizowanej w aspekcie finansowym* [The financial aspects of suppression of organized crime], Kantor Wydawniczy Zakamycze, Kraków 2004, 452 pages).

This monograph was the first Polish comprehensive publication on the system of countering and suppression of organized crime in its financial aspects. The main topic of the publication was money laundering. The work contains a multi-level analysis of this problem and the appropriate regulations in various fields of law, in particular in the context of the new system, developed at that time, aimed to counter money laundering in Poland (Act of 16 November 2000 on Counteracting Introduction into Financial Circulation of Property Values Derived from Illegal or Undisclosed Sources). Also, the existing national laws were compared to the international standards in this area. The first part of the monographs presents the problem from a criminological point of view. Money laundering has been closely related to organized crime, whose objective was to make gains from criminal activities. The description of money laundering comprised its stages and forms. An important part of the publication is the normative analysis of money laundering and its economic aspects. The successive chapters of the monograph focused on each of the most important elements of the system aimed to counter and suppress money laundering, namely the obligated institutions, the financial regulations, the financial intelligence unit (in Poland it is the General Inspector of Financial Information), and the measures intended for the fight against organized crime. The authors of the monograph found that it is the obligated institutions that play the key role in the countering of money laundering. The analysis in this regard was limited to the fundamental issues, such as a list of entities obligated to counter money laundering, the need for internal needs in this regard, the "Know Your Client" and "Know Your Employee" rules, the types of transactions that are subject to registration and reporting, and the issue of contacts with law enforcement institutions and the judiciary. The principles of application of financial and administrative standards constitute other elements of the system aimed to counter and suppress money laundering.

The research in this area can be divided into three scopes:

- money laundering methods and techniques;
- the system for countering and suppressing money laundering; and
- the provisions of the substantive criminal law.

A.1. Money laundering methods and techniques

Money laundering is a dynamic phenomenon that varies according to the legal and economic conditions. The criminals look for gaps and inconsistencies in law in order to give the appearance of legal origin to property values obtained as a result of their criminal activities. This is why it is necessary to constantly analyze the new specific methods and techniques of money laundering as well as the financial instruments that may facilitate it, or the sectors of the economy that are particularly exposed to such activities. This is a proactive

and preventive approach towards the problem of money laundering. The analysis of the individual institutions and instruments was intended to familiarize the scientists and the practitioners working at law enforcement agencies and the judiciary with the principles of their operation and with the potential use for criminal purposes, and the very description of the *modus operandi* of the offenders is an element of criminalistics techniques.

In his research, the Habilitation Candidate has focused on the capital market. It must be emphasized that the research was innovative and that the related monograph was the first Polish publication that presented the potential criminal use of instruments and institutions of the capital market domestically and globally. As a result, a number of publications were prepared, which pertained to:

1. functioning of brokerage houses and offices – the principles of their establishment and the services offered by those institutions were analyzed, also, their role as obligated institutions was studied (W. Filipkowski, K. Grabowski, "Rola domów maklerskich w przeciwdziałaniu praniu pieniędzy" [The role of brokerage houses in the countering of money laundering], *Prokuratura i Prawo 2002*, no. 11, pp. 81-97 and W. Filipkowski, "Metody wykorzystywania domów maklerskich w procederze prania pieniędzy" [The methods of use of brokerage houses in money laundering], *Prokuratura i Prawo 2004*, no. 10, pp. 82-96).
2. functioning of the so-called parallel, underground banking system in the context of their use in money laundering based on experiences of other countries; a number of systems existing in ethnic groups, e.g. Chinese, Arab, and Colombian, were analyzed (W. Filipkowski, "Czarny rynek kolumbijskiego peso – przykład wykorzystania bankowości podziemnej dla celów prania pieniędzy" [The black Colombian peso market – an example of the use of underground banking for money laundering], *Biuletyn Bankowy 2002*, no. 12, pp. 46-53 and W. Filipkowski, "Nieformalne systemy transferu wartości majątkowych" [Informal property value transfer systems], *Ruch Prawniczy, Ekonomiczny i Socjologiczny* 2006, year LXVIII, no. 1, pp. 123-138).
3. use of derivatives – these financial engineering instruments involve high risk but can also constitute a significant source of income of legal business entities; due to their complexity, the understanding of their principles can be a barrier to law enforcement agencies and the judiciary; the article presents new money laundering techniques involving the use of forward contracts, futures, options, and swaps (W. Filipkowski, "Wykorzystanie instrumentów pochodnych w procederze prania pieniędzy" [The use of derivatives in money laundering], *Prawo Bankowe* 2004, no. 2, pp. 72-83.).
4. operation of investment funds and investment fund companies – the analyses focused on the use of investment funds and their financial products for money laundering; also, their role as obligated institutions was studied (W. Filipkowski, "Zagrożenie funduszy inwestycyjnych przez proceder prania pieniędzy" [Money laundering as a threat to investment funds], *Ruch Prawniczy, Ekonomiczny i Socjologiczny* 2004 (year LXV), book 4, pp. 53-64).
5. functioning of credit union cooperatives – the principles of their establishment and the services offered by those institutions were analyzed, also, their role as obligated institutions was studied (W. Filipkowski, "Spółdzielcze kasy oszczędnościowo-

kredytowe a proceder prania pieniędzy" [Credit union cooperatives and money laundering], *Glosa* 2004, no. 8, pp. 25-30).

6. functioning of the so-called tax havens – their characteristics and the causes of their attractiveness to criminals attempting to legalize their criminal gains were presented; the hypothesis was presented that criminals use the same methods and techniques as those used by other entities to avoid taxation and to transfer capital from its country of origin (W. Filipkowski, "Oazy podatkowe w procederze prania brudnych pieniędzy" [Tax havens in money laundering], *Przegląd Ustawodawstwa Gospodarczego* 2004, no. 12, pp. 14-23).
7. use of the liberal legal professions – both domestic and foreign experiences emphasize the problem of illegal relations between lawyers, acting as attorneys, and their clients; therefore, an analysis of both potential money laundering techniques involving those public-trust professions (such as notaries) and of their role in the system aimed to counter and suppress money laundering was required; an important constitutional issue is the conflict of such legal values as the attorney-client privilege and the interest of the administration of justice system (W. Filipkowski, K. Prokop, "Wolne zawody prawnicze a przeciwdziałanie praniu pieniędzy" [Liberal legal professions and the countering of money laundering], *Państwo i Prawo* 2006, book 2, pp. 69-83).
8. use of financial services provided over the Internet – the development of the telecommunication technologies and the computational capacity has made a number of financial services provided outside of brick-and-mortar financial institutions, over the Internet, very popular, also among criminals; the publication contains characteristics of selected methods and techniques of the so-called "cyber-laundering," a variation of standard money laundering (W. Filipkowski, "Cyber Laundering: An Analysis of Typology and Techniques", *International Journal of Criminal Justice Sciences*, Vol. 3, Issue 1, January – June 2008, pp. 15–27).
9. use of public-private partnerships – newly created legal institutions draw the attention of criminals; entitled established as a part of public-private partnerships can be an attractive targets to criminals as they enable using the position of public authorities to legalize proceeds from crimes; the publication presents possible money laundering techniques involving the use of public-private partnerships (W. Filipkowski, "Wokół partnerstwa publiczno-prywatnego, Aspekty kryminologiczne i prawnokarne" [On public-private partnership. Criminological and criminal law aspects], in: M. Perkowski, ed., *Partnerstwo publiczno-prywatne. Zagadnienia teorii i praktyki* [Public-private partnership. Theoretical and practical problems], Temida2, Białystok 2007, pp. 76-101 and the updated and supplemented version: W. Filipkowski, "Wokół partnerstwa publiczno-prywatnego, Aspekty kryminologiczne i prawnokarne" [On public-private partnership. Criminological and criminal law aspects], in M. Perkowski, ed., *Partnerstwo międzysektorowe. Możliwości, zasady, realizacja* [Inter-sector partnership. Possibilities, principles, implementation], Fundacja Prawo i Partnerstwo, Białystok 2009, pp. 95-119).

The research in this area also focused on a search for completely new methods and techniques of money laundering and on evaluation which of them will become the most

important. The research pointed at the growing digitalization of the social life and the more and more extensive use of the Internet not only as a means of communication but also as a route for transferring property values, at the asymmetries present in the laws of different countries that enable the creation of tax havens, at the departure of criminals from the use of financial market institutions (where the money laundering countering system is expanding) as the principal entities used for money laundering and their focus on other business entities (W. Filipkowski, "Przypadki prania pieniędzy w Polsce i na świecie. Diagnoza, metody i tendencje rozwojowe" [Cases of money laundering in Poland and worldwide. Diagnosis, methods, and development tendencies], in: S. Lelental, D. Potakowski, eds., *Pozbawianie sprawców korzyści uzyskanych w wyniku przestępstwa* [Depriving offenders of the gains originating from crimes], materials from professional seminar organized on 10-12 September 2003 at the Police Academy in Szczytno, Wydawnictwo Wyższej Szkoły Policji w Szczytnie, Szczytno 2004, pp. 87-101 and W. Filipkowski, "New Trends in Money Laundering", *Poiniki Dikaiosyni, Criminal Justice, a monthly review for legislation, jurisprudence and theory* 2005, No. 7, pp. 883-891).

A.2. A system for countering and suppressing money laundering

Money laundering has been the subject of the first research soon after the socio-economic and political transformation in Poland. However, only after it was criminalized in the Act on the protection of economic circulation of 1995 and after the foundations of the system for countering and suppressing money laundering were established in 2000, did lawyers, criminologists, and experts in criminalistics become more interested in this problem (W. Filipkowski, "Zjawisko prania pieniędzy jako obszar badawczy w Polsce" [Money laundering as a field of research in Poland], *Archiwum Kryminologii* 2005-2006, Vol. XXVIII, pp. 169-178). Nevertheless, throughout this time, there has been a deficit of research and propositions regarding the complete system for countering and suppressing money laundering in Poland. The adopted laws were the result of Poland's international obligations in this area. However, no studies were conducted regarding the adequacy of such regulations in the Polish conditions. The research where the Habilitation Candidate was the author or co-author contained constructive criticism of the current Polish laws.

A certain reference point was provided by the relevant international standards and regulations. It must be emphasized that not only international treaties and European Union laws were the most important in this regard. A major part of the system aimed to counter money laundering was based on the obligated institutions, namely the relevant business entities. Often it was the activities of associations and organizations formed by those entities that stimulated the formation of new standards of the system. Therefore, in order to ensure a comprehensive outlook on the structure and principles of its operation, the Polish readers had to be familiarized with the Wolfsberg Group Principles, and the initiatives of the Financial Action Task Force on Money Laundering and other non-governmental organizations (E. W. Pływaczewski, W. Filipkowski, "Wybrane inicjatywy międzynarodowe w zakresie przeciwdziałania praniu brudnych pieniędzy" [Selected international initiatives in the area of countering of money laundering], in: A. Adamski, ed., *Przestępczość gospodarcza z perspektywy Polski i Unii Europejskiej* [Economic crimes from the point of view of Poland and the European Union], materials from the international conference held in Mikołajki on

26-28 September 2002, TNOiK, Toruń 2003, pp. 359-379 and E. W. Pływaczewski, W. Filipkowski, "Standardy przeciwdziałania procederowi prania pieniędzy" [Money laundering countering standards], *Państwo i Prawo* 2007, no. 10, pp. 93-103). It was these principles and initiatives that shaped the European legislation in this area.

The solutions implemented in other countries, e.g. Switzerland, can also be an inspiration for the construction of the Polish system of countering and suppression of money laundering (W. Filipkowski, "Przeciwdziałanie i zwalczanie zjawiska prania pieniędzy w Szwajcarii – teoria i praktyka" [Countering and suppression of money laundering in Switzerland – the theory and the practice], *Prokurator* 2006, no. 2, pp. 28-49). In Switzerland, compared to Poland, there was an even greater extent to which the private sector was involved in the process of formation of good practices related to identification and reporting of suspicious transactions. This approach was based on the two fundamental principles of combating of economic crimes, namely proportionality and subsidiarity of criminal law. According to those principles, the degree of interference of criminal law in the economic system must be balanced and criminal repressions must be used as the last resort when the provisions of other laws have failed.

After several years of functioning of the Polish system of counteracting and suppressing money laundering, an attempt to evaluate its effectiveness was necessary. The Habilitation Candidate performed first research of this type pertaining to the obligated institutions of the capital market together with dr hab. E. M. Guzik-Makaruk, a professor of the University of Białystok, in 2005 (W. Filipkowski, Ewa M. Guzik-Makaruk, "System przeciwdziałania i zwalczania procederu prania pieniędzy – ze szczególnym uwzględnieniem roli instytucji obowiązanych" [The system of countering and suppressing money laundering - with particular focus on the role of the obligated institutions], in: E. W. Pływaczewski, ed., *Przestępczość zorganizowana. Świadek koronny, Terroryzm – w ujęciu praktycznym* [Organized crime. Immunity witness. Terrorism – a practical approach], Kantor Wydawniczy Zakamycze, Kraków 2005, pp. 233-260). The survey research covered the Polish brokerage houses, investment fund companies, banks providing brokerage services, and the National Depository for Securities. Of the 54 surveys sent to potential respondents, 20 were filled out and sent back. The results of the research and the statistical analysis of the procedures and convictions under art. 299 of the Penal Code, have resulted in 15 propositions pertaining to the organization of the system from the legal standpoint, to intensification of the obligated institutions (to include in the area of training), and to functioning of the Department of Financial Information of the Ministry of Finance, which provides services to the General Inspector of Financial Information.

Further research on the functioning of the system from the point of view of the Polish financial intelligence unit was conducted in 2010 (W. Filipkowski, G. Szczuciński, "Przeciwdziałanie praniu pieniędzy w Polsce - wybrane aspekty" [Countering money laundering in Poland – selected aspects], in: E. Gruza, ed., *Wybrane aspekty zwalczania przestępczości zorganizowanej i terroryzmu* [Selected aspects of suppression of organized crime and terrorism], Stowarzyszenie Absolwentów Wydziału Prawa i Administracji Uniwersytetu Warszawskiego, Warsaw 2010, pp. 153-170). This research focused on the problems with the application by the General Inspector of Financial Information of the

statutory provisions and on the cooperation between law enforcement agencies, security services, and the public prosecutor's office. Despite the long time since the research was conducted and the amendments that have been made in the Act of 16 November 2000, some of the propositions made at that time are still valid. First, the fundamental problem at that time was exchange of information between the obligated institutions, the financial intelligence unit, and the state bodies. Second, there was a lack of understanding of the functions and importance of the different institutions constituting a part of the system, which led to misunderstandings among them and frustration of employees of the obligated institutions and public officials. Consequently, cooperation within the system for countering and suppressing money laundering was not effective.

A.3. The provisions of the substantive criminal law.

Substantive criminal law has a special place in the system of countering and suppressing money laundering. However, analyses of the law must not be limited to criminalization of acts consisting in legalization of gains from prohibited acts (art. 229 of the Penal Code). What is also required is a dogmatic analysis and assessment of effectiveness of the penal measure of forfeiture of objects and gains or their equivalents.

The Habilitation Candidate co-authored the commentary to art. 229 of the Penal Code (E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 299 kk" [A commentary to art. 299 of the Penal Code], in: O. Górniok, ed., *Kodeks karny, Komentarz* [Penal Code. A commentary], Wydawnictwo Prawnicze LexisNexis, Warsaw 2004, pp. 816-826; E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 299 kk" [A commentary to art. 299 of the Penal Code], in: O. Górniok, ed., Kodeks karny, Komentarz [Penal Code. A commentary], Second Edition, Wydawnictwo Prawnicze LexisNexis, Warsaw 2005, pp. 875-885, as well as in subsequent issues of the commentary, edited by prof. zw. dr. hab. M. Filar - E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 299 kk" [A commentary to art. 299 of the Penal Code], in: M. Filar, ed., *Kodeks karny. Komentarz* [Penal Code. A commentary], Lexis Nexis, Warsaw 2008, pp. 1076-1086; E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 299 kk" [A commentary to art. 299 of the Penal Code], in: M. Filar, ed., *Kodeks karny, Komentarz* [Penal Code. A commentary], 2nd edition, Lexis Nexis, Warsaw 2010, pp. 1233-1244; E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 299 kk" [A commentary to art. 299 of the Penal Code], in: M. Filar, ed., *Kodeks karny, Komentarz* [Penal Code. A commentary], 3rd edition, Lexis Nexis, Warsaw 2012, pp. 1301-1312). The commentary took into account the result of criminological research, in particular the interviews with practitioners working at law enforcement agencies and in the judiciary, conducted during various conferences and training sessions. One of the observations of the authors was that the different behaviors that constitute the criminological description of money laundering were not included in its normative definition. In particular, art. 299 (1) of the Penal Code pertained to behavior at the layering and integration stage. The authors, on the other hand, believed, that the behavior at the stage of location were outside of the article's scope. This was due to the use of the phrase "originating from the gains connected with the perpetration of a prohibited act." This suggested the need to process the originally gained objects and property values.

Another element constituting a part of the system for suppression of money laundering is the penal measure of forfeiture of objects and gains or their equivalents (W. Filipkowski, E.

Zatyka, "Penal Measures in the Polish Criminal Code of 1997", in: M. Popławski, D. Šramková, eds., *Legal Sanctions: Theoretical and Practical Aspects in Poland and the Czech Republic*, Masaryk University, Faculty of Law, Brno-Białystok 2008, pp. 271-281). This should be the final element of the entire process of suppression of money laundering in accordance with the principle that crime should not pay. The provisions of art. 44 and 45 of the Penal Code have been amended many times (E. W. Pływaczewski, W. Filipkowski, Z. Rau, "Odbieranie sprawcom przestępstw wartości majątkowych. Ocena proponowanych zmian art. 45 kodeksu karnego (wersja projektu na dzień 18. września 2006 r.)" [Depriving criminal offenders of property values. Assessment of the proposed amendments to art. 45 of the Penal Code (draft version as of 18 September 2006)] in: A. Szymaniak, W. Ciepiela, eds., *Policja w Polsce. Stan Obecny i perspektywy* [The Police in Poland. The current condition and the prospects], vol. II, Wydawnictwo Naukowe INPiD UAM, Poznań 2007, pp. 125-133). However, it appears that gradual extension of the scope of the article's application will lead to restoration of confiscation of property. Quite often the only substantiation of the changes was the need to adjust the national law to comply European laws. Nevertheless, the way the amendments were implemented was far from perfect, as it was fragmentary and did not include the necessary amendments in other provisions of the penal code and other statutes. The legislator did not take into account the conflict with the constitutionally protected legal value of property.

In connection with the performance of the research project entitled "Depriving criminal offenders of the fruit of their crimes" (no. 1049/B/H03/2008/35), managed by dr. hab. E. M. Guzik-Makaruk, a professor of the University of Białystok, the Habilitation Candidate participated in the preparation and elaboration of the results of the dogmatic and survey research (W. Filipkowski, E. M. Guzik-Makaruk, K. Laskowska, G. B. Szczygieł, E. Zatyka, "Metodyka badań" [Research methods], in: E. M. Guzik-Makaruk, ed., *Przepadek przedmiotów i korzyści pochodzących z przestępstwa* [Forfeiture of objects and gains originating from crimes], Wolters Kluwer, Warsaw 2012, pp. 15-35). Based on the dogmatic study that had been conducted, the Habilitation Candidate prepared a publication on the structure of the institution of forfeiture of objects and gains (or their equivalents) originating from crimes (W. Filipkowski, Chapter 4. "Aktualny stan prawny w zakresie przepadku przedmiotów i korzyści pochodzących z przestępstwa na tle kodyfikacji karnych z 1997 roku, 1. Instytucja przepadku w kodeksie karnym z 1997 r." [Current legislation in force concerning forfeiture of objects and gains originating from crimes on the background of the penal legislation of 1997, 1. The institution of forfeiture in the Penal Code of 1997], in: E. M. Guzik-Makaruk, ed., *Przepadek przedmiotów i korzyści pochodzących z przestępstwa* [Forfeiture of objects and gains originating from crimes], Wolters Kluwer, Warsaw 2012, pp. 211-232). Due to historical constraints, in the Penal Code of 1997, the Polish legislator abstained from introducing confiscation and, instead, transferred its functions to the penal measure of forfeiture. Even though forfeiture has worked and is working in the case of common crime, it is questionable whether it is an effective instrument in the fight against organized crime or economic crime. As the successive draft amendments to the institution of forfeiture demonstrate, there is a tendency for gradual expansion of the application of this sanction. The amendments concerned expansion of both the objective and the subjective of

forfeiture, as well as relaxation of the burden of proof requirements. First, the draft was a manifestation of the legislator's attempt to find new solutions intended to increase the effectiveness of the fight against various types of crimes. Second, the changes in the society and the global economy have given criminals new effective ways to conceal property that originated directly or indirectly from crimes. In this publication, the Habilitation Candidate pointed at the functional connections between criminalization of money laundering and forfeiture of objects or gains.

However, there is a need for a rational penal policy in this area, based on an in-depth analysis of the reality and an evaluation of the effectiveness of the current laws. This is why, based on a part of the results of the survey study, the Habilitation Candidate prepared a publication on the opinions of practitioners, namely public prosecutors and judges, on the effectiveness of the system aimed to deprive criminals of the fruit of their crimes (W. Filipkowski, Chapter VI. "Przepadek przedmiotów i korzyści pochodzących z przestępstwa na podstawie badań, 2.5. Efektywność i charakter instytucji pozbawiania sprawców owoców przestępstw oraz współpraca z wybranymi instytucjami w aspekcie zwalczania przestępczości. Opinie sędziów i prokuratorów" [Forfeiture of objects and gains originating from crimes on the basis of research. 2.5. Effectiveness and nature of the institution of depriving offenders of the fruit of their crimes and cooperation with selected institutions in the suppression of crime. Opinions of judges and public prosecutors], in: E. M. Guzik-Makaruk, ed., *Przepadek przedmiotów i korzyści pochodzących z przestępstwa* [Forfeiture of objects and gains originating from crimes], Wolters Kluwer, Warsaw 2012, pp. 480-502). The publication consisted of several parts: presentation of the propositions of respondents from both research groups concerning improvement of effectiveness of depriving offenders of the fruit of their crimes; evaluation of the cooperation with selected state and private institutions; evaluation of the directions of changes in the basic elements of the strategy of depriving offenders of the fruit of their crime proposed by the researchers; the nature of the institution of forfeiture; and the general evaluation of the effectiveness of forfeiture in suppressing crime.

As the Habilitation Candidate taught a monographic course entitled "Money Laundering – Legal and Economic Aspects" as a part of the Lifelong Learning Programme - Erasmus for English-speaking students, the Author prepared a relevant manual for the course (W. Filipkowski, *Money Laundering – Legal and Economic Aspects,* Temida2, Białystok 2008, 51 pages). The manual contained a summary of the results of the dogmatic and criminological research conducted by the Habilitation Candidate which, in an updated for, are presented to the students.

B. The second research area that the Habilitation Candidate is interested in is **organized crime in its criminological and legal aspects.**

B.1. Criminological aspects

In connection with his work on the doctoral dissertation and with the subsequent participation in a number of conferences in Poland and abroad, the Habilitation Candidate was interested in organized crime in its criminological aspects (W. Filipkowski, "Międzynarodowa Konferencja 'Przestępczość zorganizowana w Europie: koncepcje, wzorce

i polityka w Unii Europejskiej i poza nią'" [International Conference entitled "Organized Crime in Europe: Concepts, Patterns, and Control Policies in the European Union and Beyond], Freiburg, 27 February – 1 March 2003, *Prokuratura i Prawo* 2003, no. 11, pp. 175-179). The aforementioned conference had two principal objectives: First, its organizers wanted to attempt to describe the problem of organized crime in all of its variations present in the European Union and beyond it. They emphasized the cultural context and the diversity in the functioning of organized crime. Second, the organizers assumed familiarization with the problems of criminal policies of prevention and suppression of organized crime in the different countries. This dualistic approach to organized crime had a significant impact on the Habilitation Candidate's research on the most serious contemporary threats to the security of citizens.

The threats infiltrate the boundary between the "legal" world and the "illegal underground" (criminal, political, and economic). Importantly, the mutual pervasion of the two worlds makes it harder to correctly define the problems and to prosecute the offenders effectively. The society fears those threats. However, it is not clear if the fear is due to their true nature or their image created in the mass media, by the politicians, and by the authorities. Effective suppression of organized crime, corruption, and terrorism requires knowledge of their nature (W. Filipkowski, "A review of P. C. van Duyne, M. Jager, K. von Lampe, J. L. Newell, eds., *Threats and phantoms of organized crime, corruption and terrorism*, Wolf Legal Publishers, Nijmegen 2004", *Prokuratura i Prawo* 2005, no. 2, pp. 121-126).

His studies of foreign literature enabled the Habilitation Candidate to become familiar with the theories related to economic outlooks on the activity of organized criminal groups (W. Filipkowski, "A review of P. C. van Duyne, K. von Lampe, M. van Dijck, J. Newell, eds., *Organised Crime Economy, Managing crime markets in Europe*, in: G. Szczygieł, M. Zdanowicz, eds., *Wybrane problemy prawa krajowego i europejskiego*, *Publikacje Wydziału Prawa Uniwersytetu w Białymstoku*, Temida2, Białystok 2007, pp. 393-403). In the light of the aforementioned theories, the legal economy and the gray economy constitute a single national economy. The activity of criminal groups (in particular in the area of economic crime) is just a specific activity aimed at achieving profits by offering products or services that are prohibited or rationed by the state, for which there is a demand among the citizens. The same entities, companies, and natural persons often function in both spheres. Money laundering is a way to transfer capital between the two spheres.

The knowledge gained by the Habilitation Candidate was used by him to present the first Polish criminological and criminalistic analysis of the Internet as an area of illegal activities, to include organized crimes (W. Filipkowski, "Internet – przestępcza gałąź gospodarki" [Internet – a criminal branch of the economy], *Prokurator* 2007, no. 1, pp. 48-68; the article was written on the basis of the paper, W. Filipkowski, "Internet as Illegal Market Place", published at web site of the 6th Colloquium on Cross-border Crime in 2005, http://www.cross-border-crime.net). The Internet is used by criminals in two basic ways. First, they use it as a system of communication, also involving the use of cryptological solutions. The Internet can be used to send orders and instructions and to manage entire criminal groups or networks. This is done the same way as in the case of legal organizations; new telecommunication technologies can be used to enhance the effectiveness of the groups'

operations. Also, criminals use the Internet to solicit sales and place orders for illegal goods or services. The Internet is a "new" instrument for committing "old" types of crimes. To use a well known e-commerce term, one can say that in the Internet criminal market there is the *Criminal-to-Criminal* (C2C) sector. Also, potential "clients" can express their needs in an unrestrained manner or look on the web for whatever they need. To follow this logic, one can identify another sector of this economy. Again, to use another e-commerce term, one can refer to the other sector as the *Criminal-to-Victim* (C2V) sector. This refers to the direct damage caused by the offender's behavior on the internet to the victim. Besides "regular" crimes where the Internet is only the new instrument used by criminals that enables using new operating methods, there are also forbidden acts that can only be perpetrated in the cyberspace. They appeared and evolved together with the Internet. This is directly linked to the fact that information became one of the most valuable and important objects (goods) both in the national and the global economy – also in public life in general.

Also, the Habilitation Candidate's attention was drawn to the different approach to organized crime in the scientific circles in Poland and abroad. The Habilitation Candidate has come to the conclusion that there are many interesting criminological research projects abroad focusing on this problem. At the same time, the only academic center in Poland that worked on this problem was the University of Białystok where a team of researchers was led by prof. zw. dr hab. E. W. Pływaczewski. The Habilitation Candidate had to opportunity to participate, as the main researcher, in several bespoke research and development projects focusing on organized crime. Also, the information he obtained from practitioners during conferences, seminars, and training sessions indicated that there are certain expectations regarding the legislation in force that could enhance the effectiveness of the fight against organized crime. Another issue raised by practitioners was the increasing demand for technological solutions that would make their work more efficient.

In his criminological research on organized crime, the Habilitation Candidate focused on its phenomenon. He was interested in its organizational forms, which are also a research area of the science of criminalistics. In particular, he suggested that it is necessary to abandon the romantic – adventurous image of organized crime that is ubiquitous in today's popular culture and journalism. In the Habilitation Candidate's opinion, the "Mafia's paradigm" as the dominant form of operation of criminal groups, was detrimental to effective fight against it and it was due to historical and cultural constraints. Only an analysis of the results of research conducted in Poland and abroad demonstrated that the most numerous and the most dangerous were small criminal groups specializing in economic crimes and network groups without vertical, hierarchical organizational structures (W. Filipkowski, "Rozdział I. Fenomenologia zjawiska. §1. Modele i formy organizacyjne przestępczości zorganizowanej" [Chapter I. Phenomenology of the problem. §1 Organizational models and forms of organized crime], in: E. W. Pływaczewski, ed., *Przestępczość zorganizowana* [Organized crime], C.H. Beck, Warsaw 2011, pp. 63-81). Therefore, calling every group of criminals Mafia is harmful because it leads to the application of inappropriate legal measures towards each manifestation and creates an aura of threat in the society.

In the opinion of the Habilitation Candidate, a much more appropriate methods of description of the facts were theories based on the economic approach. Their examples are D.

Smith's theory of a criminal enterprise and its continuation taking the form of a criminal industry.

The first of the theories is based on the assumption that, similar to legal enterprises, organized criminal groups strive to maximize their share in the specific market for goods or services (prohibited or rationed); however, they do so in the part of the economy that can be referred to as the "grey economy" or "economic/criminal underground." Criminal enterprises adjust to the socio-economic conditions and responds to the actions of state bodies intended to limit their operations or to eliminate them.

The second theory emphasizes the strong link between formation and functioning of criminal groups and the existence of an illegal economy. One can say that there is a single global economy that consists of two complementary parts: the legal economy (*upperworld*) and the criminal underground (*underworld*). They are governed by the same forces of demand and supply and a large number of entities function in both parts of the economy, which creates closer ties between them. The differences between them are related to the range of goods and services offered by the entities and the inclination of some entities to use specific – illegal – means to achieve similar economic objectives.

Another phenomenological aspect, in addition to organizational forms, is the consequences of the operations of organized crime to the society (W. Filipkowski, "Rozdział I. Fenomenologia zjawiska. §3. Skutki funkcjonowania zjawiska przestępczości zorganizowanej" [Chapter I. Phenomenology of the problem. §3 The consequences of functioning of organized crime], in: E. W. Pływaczewski, ed., *Przestępczość zorganizowana* [Organized crime], C.H. Beck, Warsaw 2011, pp. 135-151). The consequences can be divided into individual, group, and universal consequences, according to the number of persons affected. Individuals can become victims of crimes committed by organized criminal groups. On the other hand, such consequences can affect members of such criminal groups. Individual consequences are related to specific events and crimes which most often lead to tangible or intangible damage or cause direct threat to legally protected values.

As the number of affected persons increases, the consequences take a more general and abstract form. In such cases, there is a sense of threat in a group (for example in local communities) or in the global society, as well as violation of collective values, such as law and order, general security, the market economy, and democratic institutions of the state. It must be emphasized another the criterion of division of consequences caused by the operations of organized criminal groups can be the place where such consequences occur. Also, groups organize the lives of their members and, contrary to common beliefs, do more than just harm the society. Organized crime also influences common crime, which is stimulated by it.

The typology of the consequences of the functioning of organized crime is most often related to the sphere of social life where they occur. According to this criterion, three basic categories can be identified: socio-cultural, politico-administrative, and economic. It can also be said that organized crime has some positive consequences. The functioning of organized crime forces national and international bodies to cooperate in the fight against their common enemy on the local, national, regional, and global level. In his publication, the Habilitation Candidate emphasized the need to adopt foreign solutions where extensive research is

conducted and methodologies have been elaborated to elaborate the risk of presence or threat of crime as a part of a strategic analysis performed by state bodies.

The Habilitation Candidate also conducted research on the system for countering organized crime in the context of criminology and criminalistics (W. Filipkowski, "Rozdział III. System przeciwdziałania i zwalczania przestępczości zorganizowanej" [Chapter III. The system for countering and suppressing organized crime], in: E. W. Pływaczewski, ed., *Przestępczość zorganizowana* [Organized crime], C.H. Beck, Warsaw 2011, pp. 171-206). This has led to the presentation of a holistic concept of such a system. The Habilitation Candidate divided the sum of the elements constituting a system for countering and suppressing organized crime into elements that are available to the state and its bodies and those that are not backed by the state's force and are not formalized. It is the state that is responsible for detecting, prosecuting, and punishing members of organized criminal groups for the crimes they have committed. The Habilitation Candidate made further divisions in the system by identifying two sub-groups: elements of the system related to institutions defined in legislation and organizational solutions.

Several key questions pertaining to the national-level organizational aspects can be identified:

- proper separation of competences between various state bodies with reference to countering and suppressing organized crime, in particular in the context of operations of law enforcement bodies, so as to avoid potential conflicts;
- starting extensive cooperation with regards to sharing of information on persons and events, training on specific topics, diagnosis of the problem, and creation of strategies for countering and suppressing it;
- proper selection of staff and striving to enhance the qualifications of public officials and to improve the functioning of internal organization cells that monitor their work;
- use by law enforcement agencies and the judiciary of the most recent technologies in their daily investigative and process work; and
- ensuring proper funding of state bodies to make implementation of the above tasks possible.

Another area in the organization of the system of prevention and suppression of organized crime is international cooperation. It takes place on the regional and global level.

What is very important is the role that the societies can play in the system for countering and suppressing organized crime. The key role in this area can be played most of all by various associations, foundations, political parties, and other social movements of less formal nature, e.g. local communities, neighborhoods, etc. A special role is played by academic centers working on legal, criminalistic, criminological, sociological, and technical problems related to organized crime. They should support state bodies and the society with their expert knowledge in this area that is based on empirical knowledge.

B.2. Legal aspects.

Participation in the preparation of the national report for the collective work edited by Prof. C. Fijnaut and Dr. L. Paola, has drawn the Habilitation Candidate's attention to elements of the entire system of legislation intended to counter and suppress organized crime, in particular the legislation aimed against criminal groups and their members (E. W.

Pływaczewski, W. Filipkowski, "The Development of Organised Crime Policies in Poland: From Socialist Regime to 'Rechtsstat'", in: C. Fijnaut, L. Paoli, eds., *Organised Crime in Europe: Concepts, Patterns and Control Policies in the European Union and Beyond*, Wydawnictwo Springer, Dordrecht 2004, pp. 899-930). The analyses presented in that publication concerned changes in the fight against organized crime adopted by the Polish legislator since the socio-economic and political transformation that started in 1989. After the decision makers suddenly discovered that capitalism involves a number of pathologies, work on development of a system aimed to fight organized crime was commenced. The process still continues. Participation in this project enabled confrontation of the aforementioned changes with the regulations adopted in other European countries. The regulations in question pertained to both legal and organizational aspects.

The former included regulations concerning criminalization of participation in organized associations or groups acting with the intent to commit crimes, introduction of new methods of operational-reconnaissance activities (to include infringement of the secrecy of correspondence and communication), introduction of the institution of immunity witness to the Polish criminal process, a set of regulations concerning depriving criminals of the fruit of their crimes (criminalization of money laundering, forfeiture of objects and gains, and security on property). Organizational changes included establishment of the Central Bureau of Investigation at the National Police Headquarters, departments in charge of the fight against organized crime at organizational units of the public prosecutor's offices, the Internal Security Agency, and the General Inspector of Financial Information. The objective, the history, and the competences of those bodies were presented.

These issues were also the subject of another publication prepared for the research project of the German Federal Police Office (W. Filipkowski, "Organized crime in Poland as a field of research and its contemporary situation", in: U. Töttel, H. Büchler, eds., *Research Conferences on Organized Crime at the Bundeskriminalamt in Germany 2008-2010,* Bundeskriminalamt, Hermann Luchterhand Verlag, Köln 2011, pp. 44-63). The publication also presented the current scientific and organizational initiatives aimed at enhancing the effectiveness of the fight against organized crime. A particularly important part of the presentation was the achievements of the Polish Platform for Homeland Security.

The Habilitation Candidate's scholarship in Switzerland in 2005 was an opportunity to become familiar, among others, with foreign literature on criminological and legal aspects of organized crime (W. Filipkowski, "Przestępczość zorganizowana w ujęciu kryminologicznym i prawnym" [Organized crime in its criminological and legal aspects], *Prokuratura i Prawo* 2006, no. 12, pp. 57-75). This enabled the Habilitation Candidate to conduct research on the adequacy of the Polish legislation in force. At that time no extensive research was conducted on the problem of organized crime. This was particularly visible compared to the achievements in this area in other countries. This field was not extensively explored by criminologists or lawyers. There was no competition that would make scientific work more dynamic while pointing at a more variable image of the problem.

Dynamics is an integral part of social phenomena. On the other hand, one of the fundamental characteristics of law (criminal law in particular) should be its stability, certainty, and definiteness. It appears that the two characteristics cannot be reconciled.

Unfortunately, this is particularly visible in the case of organized crime. Regardless of the preferences of lawyers and decision makers, organized crime is a dynamic phenomenon and one must take into account the fact that effectiveness of laws is directly linked to their adequacy in the changing environment. Another conclusion that could be drawn from the results of the research is that doctrine and court decisions do not take into account the changing forms of organized crime when interpreting the characteristics of associations or groups acting with the intent to commit crimes. This took place even though acts of international law (in particular the UN Palermo Convention of 2000) have pointed at these problems. What is needed is a departure from the opinion that the structure of organized criminal groups can only be vertical and hierarchical. If there is no criminal responsibility for membership in horizontal, network-structured groups, some behaviors that are largely dangerous to the society will not be covered by the system of penal reaction to organized crime.

The Habilitation Candidate co-authored the commentary to art. 65 of the Penal Code (E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 65 kk" [A commentary to art. 65 of the Penal Code], in: M. Filar, ed., Kodeks karny. Komentarz [Penal Code. A commentary], Lexis Nexis, Warsaw 2008, pp. 302-304; E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 65 kk" [A commentary to art. 299 of the Penal Code], in: M. Filar, ed., Kodeks karny, Komentarz [Penal Code. A commentary], 2nd edition, Lexis Nexis, Warsaw 2010, pp. 340-342; and E. W. Pływaczewski, W. Filipkowski, "Komentarz do art. 65 kk" [A commentary to art. 65 of the Penal Code], in: M. Filar, ed., Kodeks karny, Komentarz [Penal Code. A commentary], 3rd edition, Lexis Nexis, Warsaw 2012, pp. 347-349). In those publications their authors emphasize the importance of the provisions of the article in question to the system of penal actions connected with the fight against organized crime and terrorism.

C. The third research area that the Habilitation Candidate is interested in is **terrorism, in particular in financing of terrorism, in its legal and criminological aspects.**

C.1. Legal aspects.

The interest of the Habilitation Candidate in terrorism was connected with his participation in research projects together with practitioners from law enforcement agencies and with the situation at that time in Europe and worldwide. In his research, the Habilitation Candidate analyzed the extent to which the legislation in force and the drafted legislation corresponded to the contemporary forms of terrorism. The research was important because at that time the Polish legislator introduced amendments to the criminal law arising from Poland's international obligations.

In 2004, the Polish legislator introduced a legal definition of terrorist crime into art. 115 of the Penal Code and a provision that criminalized membership in an organized crime or an association acting with the aim to commit terrorist crimes. This was the basis for dogmatic research and enabled comparing the above-mentioned regulations to the international standards, the provisions found in the legislation of other countries, and to results of criminological studies.

The first such analysis in the Polish literature was presented in a publication written by the Habilitation Candidate and Col. (res.) R. Lonca, at that time an analyst focusing on the

threat of terrorism (W. Filipkowski, R. Lonca, "Zorganizowane grupy o charakterze terrorystycznym. Studium kryminologiczno-prawne" [Organized terrorist groups. A criminological and legal study], *Wojskowy Przegląd Prawniczy* 2006, no. 4, pp. 33-50). Of note is the extensive description of existing organization forms of terrorist groups and the criminological analysis of their construction, principles of operation, and membership. It was emphasized that the groups had various forms that were not always hierarchical but rather took the form of networks and federations of smaller groups. The authors also cited the results of foreign research that indicated differences in the methods of operation of organized criminal and terrorist groups. The former were focused on gaining profits and, consequently, took the risk of disclosure of their activities. Terrorist groups, on the other hand, put the safety of their members and secrecy of their actions ahead of the effective achievement of their goals and performance of attacks. However, in art. 258 of the Penal Code, the Polish legislator treated the two types of groups the same from a normative point of view. Thus, the question was: Can such a regulation be an effective instrument in the fight against such threats? The Habilitation Candidate reached the conclusions that the regulations that criminalized membership in organized criminal groups or terrorist associations will be dead letter and that terrorists can possibly be penalized for their membership in organized groups or associations acting with the aim to commit crimes, e.g. crimes of armed criminal action.

Moreover, the aforementioned regulation refers in essence to art. 115 (20) of the Penal Code, which has been criticized by many authors, which is the definition of a terrorist crime. Problems with interpretation of this regulation directly affect the interpretation of art. 258 of the Penal Code, e.g. in the evaluation of the objective aspects of a prohibited act. The authors of the publication pointed at the problem of frequent inadequacy of the current doctrine with regards to the interpretation of the terms "group" and "association" in the functioning of terrorist groups. Also, interpretation of art. 115 (20) of the Penal Code was difficult as the Polish legislation contained, since as early as 2002, different legal definitions of "terrorist acts" in the Act of 16 November 2000 on Counteracting Introduction into Financial Circulation of Property Values Derived from Illegal or Undisclosed Sources (it was rescinded only in 2009).

The normative aspect of this research problem was further developed in other publications co-authored by the Habilitation Candidate and dr hab. E. M. Guzik-Makaruk, professor of the University of Białystok (W. Filipkowski, E. M. Guzik-Makaruk, "Kryminalizacja grup terrorystycznych w ustawodawstwie RFN i Polski. Próba studium komparatystycznego" [Criminalization of terrorist groups in the legislation of the Federal Republic of Germany and of Poland. An attempt at a comparative study], in: K. Indecki, ed., *Przestępczość terrorystyczna, Ujęcie praktyczno-dogmatyczne* [Terrorist crimes. A practical-dogmatic approach], Wydawnictwo WiS, Poznań – Białystok – Łódź 2006, pp. 83-103 and W. Filipkowski, E. M. Guzik-Makaruk, "Strafrechtliche Probleme des Terrorismus im polnischen Strafgesetzbuch", in: E. W. Pływaczewski, ed., *Current Problems of the Panel Law and Criminology (4)*, Temida2, Białystok 2009, pp. 181-199). In addition to the dogmatic studies on art. 115 (20) and art. 258 of the Penal Code, the Habilitation Candidate also presented Poland's penal policy towards perpetrators of the crime of membership in an organized group or association acting with the aim to commit terrorist crimes and perpetrators

of terrorist crimes. The Habilitation Candidate found that giving such offenders the same status as that of repeated offenders, members of organized criminal groups and offenders for whom crime is a constant source of income. The comparative research demonstrated, however, that in other countries (to include the Federal Republic of Germany), there are other types of behavior that are criminalized, too, for example providing support to terrorist groups or associations or recruiting members for such groups and associations. Therefore, the authors suggested that introduction of such new types of prohibited acts into the Polish penal law be considered in order to avoid interpretation problems regarding behavior consisting in assisting and inciting others to become members of such groups or associations.

The changes in the penal law were only one element of the system for countering and suppressing terrorism in Poland and worldwide. In his publication of 2009, the Habilitation Candidate presented the key elements of such systems based on European Union regulations and documents of the North Atlantic Treaty Organization (W. Filipkowski, "Formy zwalczania terroryzmu na podstawie wybranych uregulowań Unii Europejskiej i NATO" [Forms of suppression of terrorism based on selected European Union and NATO regulations], in: K. Indecki, P. Potejko, eds., *Terroryzm: materia ustawowa?* [Terrorism: a material for statutory regulation?], Agencja Bezpieczeństwa Wewnętrznego, Warsaw 2009, pp. 27-44). In the conclusion of this publication, the Habilitation presented an outline of his recommended system elaborated on the basis of the dogmatic research and the analysis of international documents. The system was based on three pillars: countering of terrorism (in particular formation of terrorist groups and performance of attacks), crisis management in the event of an attacks, and prosecution of perpetrators of attacks and members of terrorist groups. The Habilitation Candidate recommended the performance of multi-directional activities intended to fight the causes and manifestations of terrorism. He also pointed at the shift in the weight of the state's actions in order to prevent formation of terrorist groups and performance of terrorist attacks by intensifying operational work and intelligence activities. This was a proactive approach, which raised concerns from the point of view of protection of human rights and civic freedoms, the certainty of penal law, for example in determination what actions constitute preaching of religious principles, as opposed to calls for religious hatred. Few results of operational and intelligence proceedings would end up in the courtroom. However, this should not hinder the creation of uniform substantive-law, procedural, and organizational solutions that will facilitate prosecuting and putting before court the perpetrators of terrorist crimes.

The issue of potential effectiveness of the existing legal and organizational instruments in the fight against terrorism was the subject of the survey conducted by the Habilitation Candidate in 2008 on a group of 37 judges from criminal divisions of appeals courts and 20 public prosecutors from departments charged with fighting organized crime in appellate public prosecutor's offices (W. Filipkowski, "Strategia walki z terroryzmem w opinii prokuratorów i sędziów" [Strategy of the fight against terrorism in the opinions of public prosecutors and judges], in: M. Zdanowicz, D. Lutyński, eds., *Przyjazna granica - rok do EURO 2012* [A friendly border – a year before the EURO2012], Kętrzyn 2011, pp. 171-186). The research covered the following problems:

- Which provisions of the criminal law (substantive and procedural) currently in force could potentially be useful in the fight against terrorism?
- Expert studies from what fields of science could be useful in the fight against terrorism?
- What changes should be made to the Polish legislation pertaining to the fight against terrorism?
- What should be the priority directions of the suppression of terrorism in Poland?

Based on the results of the study, it was found that:

- In the opinion of the respondents, of key importance in the fight against terrorism are institutions that are already contributing to the fight against organized crime, in particular operational-reconnaissance activities.
- Members of both respondent groups mentioned one type of potentially useful expert studies, namely phonoscopy. Also, it is not surprising that the respondents stressed the usefulness of expert knowledge in the area of explosives and weapons, as those tools have been and are used by terrorists.
- The respondents expressed the opinion that they were unable to competently assess the changes required in the Polish law pertaining to the fight against terrorism.
- The judges found two directions to be of key importance: countering of terrorism and effective prosecution and sentencing of terrorists. The prosecutors strongly supported only the second priority direction mentioned by the judges.

C.2. Forms of terrorist activities.

An analysis of the contemporary forms of terrorism has led the Habilitation Candidate to study two of them: suicide terrorism and cyberterrorism.

The Habilitation Candidate, together with Col. (res.) R. Lonca, were the first to conduct research on suicide terrorist attacks in a series of papers published in a periodical of the Internal Security Agency (due to their size, the results of the research were published in three parts: W. Filipkowski, R. Lonca, "Analiza zamachów samobójczych w aspekcie kryminologicznym i prawnym, Cz. I" [Analysis of suicide attacks in their criminological and legal aspects. Part. I], *Przegląd Bezpieczeństwa Wewnętrznego* 2010, no. 2, pp. 13-27; W. Filipkowski, R. Lonca, "Analiza zamachów samobójczych w aspekcie kryminologicznym i prawnym, Cz. II" [Analysis of suicide attacks in their criminological and legal aspects. Part. II], *Przegląd Bezpieczeństwa Wewnętrznego* 2011, no. 3, pp. 11-28, and W. Filipkowski, R. Lonca, "Analiza zamachów samobójczych w aspekcie kryminologicznym i prawnym, Część III" [Analysis of suicide attacks in their criminological and legal aspects. Part. III], *Przegląd Bezpieczeństwa Wewnętrznego* 2011, no. 4, pp. 115-126). The publications presented an analysis of the utility of suicide attacks from the point of view of terrorists and the motives of the suicide attackers. Also, the evolution of the groups using such methods over the years was presented in the geopolitical and religious context. Last but not least, the authors presented an analysis of the risk of suicide attacks in Poland.

Of particular note is the presentation of the concept of operations of terrorist groups performing suicide attacks as a system of two smaller groups. One group functions continuously and is responsible for providing the organizational support for larger numbers of attacks, which includes recruitment, logistics, communications, and security (the so-called

support cell). The other group is variable with regards to its membership and is responsible for preparing and performing a specific, most often one, attack (the so-called implementation cell). With regards to this, it was criminalistic research on the tactics used by the perpetrators of the crime. Based on an analysis of relevant literature and documents, 9 areas of activities of the support cells (terrorist propaganda, recruitment, financing of terrorist groups, supply of necessary means, transport, safe shelter, training, telecommunication, and forgery of documents) and 4 areas of activities of the implementation cells (reconnaissance of the target of the attack, simulation of the attacks, final reconnaissance, and performance of the attack) were identified. Dogmatic research was conducted, which consisted in finding the answer to the question of whether the Polish legislation in force enabled classification of such behavior as a forbidden act. Also, the research included verification of whether the assumed classification of an act enables considering it a terrorist crime pursuant to art. 115 (20) of the Penal Code.

The analysis performed led to the conclusion that the behavior of the perpetrators constitutes different phenomenal or stadial forms of perpetration of a prohibited act (a terrorist attack). Most often such behavior can be considered as a broadly-defined assistance. In some particular cases, such behavior can be classified as a separate prohibited act defined in the special part of the Penal Code, e.g. financing of terrorism (art. 165a of the Penal Code). On the other hand, the actions typical of the implementation cells could be classified as penalized forms of stages of a crime. The first three actions have the characteristics of preparation. It can be said that the perpetrators, acting with the intent to commit a prohibited act, perform activities that would create the conditions for performing an act directly leading to a prohibited act. In particular, art. 16 (1) of the Penal Code enumerates the following behaviors: reaching an agreement with another person, obtaining or adopting means, collecting information, or preparing a plan of action. However, pursuant to art. 16 (2) of the Penal Code, preparation is penalized only when a relevant statute provides so.

Secondly, the authors analyzed the question of whether the aforementioned prohibited acts, which are performed within a terrorist group or association, meet the criteria defined in art. 115 (20) of the Penal Code. Besides the substantive criteria enumerated in that article, there is one formal criterion regarding the upper limit of the penalty of incarceration for perpetration of a given prohibited act. The limit had to be at least 5 years. By analyzing the aforementioned types of prohibited acts and the associated sanctions, the Habilitation Candidate drew the conclusion that some of them do not meet this formal criterion. For example, acts enumerated in art. 190 (1), art. 255 (2), art. 255 (3), art. 256, art. 263 (3), art. 264 (2), and art. 275 of the Penal Code were not terrorist crimes. In the case of preparations subject to penalty, the problem is much greater. Of the aforementioned six cases, only preparation for violent removal of a constitutional body of the Republic of Poland carried a penalty whose upper limit was exactly 5 years of incarceration (art. 128 (2) of the Penal Code).. This was another argument, supported by numerous critical remarks in the relevant literature, for changing the regulation. Behavior of members of a terrorist group can be considered as a crime, even one perpetrated within an organized criminal group - art. 258 (1) of the Penal Code (or an armed group – art. 258 (2) of the Penal Code). However, under the

legislation, it will not be possible to consider them to be terrorist crimes. Is such a regulation justified and appropriate?

Cyberterrorism cannot be looked at only from the standpoint of attacks on the so-called critical infrastructure. Some of its forms are much more dangerous to individual countries as well as the international community as they facilitate the development of proper terrorism. Such forms include terrorist propaganda, recruitment of new members, financing of terrorism, and transfer of information. The competent state bodies should remember about their existence. However, as the court case against Sami Omar Al-Hussayen has demonstrated, the fight against such forms is not easy (W. Filipkowski, "Wybrane aspekty fenomenologii cyberterroryzmu. Studium przypadku sprawy Sami Omar'a Al-Hussayen'a" [Selected aspects of the phonomenology of terrorism. Sami Omar Al-Hussayen - a case study], in: T. Jemioła, J. Kisielnicki, K. Rajchel, eds., *Cyberterroryzm – nowe wyzwania XXI wieku* [Cyberterrorism – new challenges of the 21st century], Wydawnictwo Wyższej Szkoły Policji w Szczytnie, Warsaw 2009, pp. 119-131). It appears that it was easier to counter "regular" cyberattacks. The Habilitation Candidate pointed at the fact that the number of successful attacks against critical infrastructure had been small. On the other hand, the activity of terrorists was manifested in other forms that were no less dangerous. Only since recently more attention has been paid to them during preparation of successive reports on the current situation and of strategies of the fight against terrorism (e.g. by EUROPOL).

Among the other forms, the Habilitation Candidate included, for example, conduct of a psychological warfare, terrorist propaganda, gathering of information (to include data mining technologies), financing of terrorism, recruitment of new members of terrorist groups, building networks of connections, exchange of information, as well as planning and coordination of activities. All of them took advantage of such characteristics of the Internet as accessibility, its trans-boundary nature, anonymity of users, and speed of communication. The forms also played an important role as they made the operations of terrorist organizations more efficient and improved the way attacks were performed. In fact, they enabled terrorism not only continue to exist but even to develop and reach such areas and people located away from regions where military operations were conducted.

The following question was asked: Has the tendency to criminalize additional types of behavior connected indirectly with terrorism (and present in the cyberspace, too) not been excessive? As the aforementioned case demonstrated, there was a certain axiological conflict between guarantees of security (by eliminating ties between terrorists and persons supporting them) and the freedom of speech and religion. Thus, should the state abstain from prosecuting such behavior? The answer is: definitely not. From the point of view of the overall strategy of the fight against terrorism, such behavior, too, should be declared as prohibited and carry an adequate penalty. The Habilitation Candidate pointed at the facts that this was only one element of such a strategy and that, by itself, it did not guarantee success. Moreover, proper edition of new penal regulations in this regard was a problem. What should be done in the first place is an analysis of the proportionality of the extent of interference with civil rights and freedoms to the potential threat.

C.3. Financing of terrorism

A particularly important place in the scientific achievements of the Habilitation Candidate is occupied by research on financing of terrorism. The publications authored or co-authored by the Habilitation Candidate were the result of pioneering dogmatic, criminological, and criminalistic research on this problem. They covered such issues as the phenomenon, the techniques and methods of financing of terrorism, the international standards, the elements of the system for countering and suppressing the manifestations of financing of terrorism, the role of the Polish financial intelligence unit in the system, the scope of its criminalization, and the principles of criminal responsibility of natural persons and collective entities.

The Habilitation Candidate's research focused mostly on the phenomenon and the operating methods employed by the perpetrators. It was found that terrorist organizations conducted their operations within communities (e.g. ethnic or religious) that they grew up in and where they had their sympathizers (W. Filipkowski, R. Lonca, "Kryminologiczne i prawne aspekty finansowania terroryzmu" [Criminological and legal aspects of financing of terrorism], *Wojskowy Przegląd Prawniczy* 2005, no. 4, pp. 26-46). Most often the communities had clan structures where the bonds of blood or faith were more important than law-abiding state in which they lived (e.g. as political or economic emigrants). Also, terrorists and their organizations were able to finance their operations from two equally important sources: legal and illegal. Multiplicity of potential financial assets available to them made it difficult to take effective actions aimed at preventing terrorist attacks and eliminating the entities organizing them. The Habilitation Candidate proposed a hypothesis that criminals used the same or similar techniques for moving financial assets as persons involved in money laundering. The aforementioned publication also presented dogmatic research on the problems of qualification of behaviors constituting financing of terrorism and of adaptation of Polish legislation to conform to international standards. The research was conducted before the introduction of art. 165a into the Penal Code in 2009. Based on the available foreign literature and documents of international organizations, the Habilitation Candidate also conducted criminalistic case studies on the methods of financing terrorism with the use of wire transfers, the crime of skimming, religious foundations and associations, and Havala parallel banking systems (W. Filipkowski, "Finanzierung des Terrorismus. Fallstudien", in: *Kriminelle Finanzierung des Terrorismus, Internationales Fachseminar,* 13-16 June 2005, Szczytno (Poland), Mitteleuropäische Polizeiakademie, Vienna 2006, pp. 87-107).

The Habilitation Candidate also conducted dogmatic and criminological research on the areas of functioning of the system for countering and suppressing the financing of terrorism in the Polish legal system, as well as in comparison with the international standards in force (W. Filipkowski, "System przeciwdziałania finansowania terroryzmu w ujęciu regulacji międzynarodowych" [System for preventing the financing of terrorism from the point of view of international law], in: Emil W. Pływaczewski, ed., *Aktualne problemy prawa karnego i kryminologii* [Current problems of criminal law and criminology], no. 3, Wydawnictwo Temida2, Białystok 2005, pp. 25-47, W. Filipkowski, "Polskie regulacje w zakresie zwalczania finansowania terroryzmu" [Polish regulations on suppression of the financing of terrorism], in: T. Dukiet-Nagórska, ed., *Zagadnienia współczesnej polityki kryminalnej* [Problems of contemporary penal policy], Wydawnictwo STO, Bielsko-Biała

2006, pp. 189-202, and W. Filipkowski, "Anti-Terrorist Financing Regulations in Poland – Past and Present Issues", *Białostockie Studia Prawnicze* 2011, no. 10, pp. 81-94). The system should comprise domestic elements, such as criminalization of access to or gathering of funds with the intent of use for terrorist purposes; monitoring, freezing, seizing, and confiscating of funds used or intended for such purposes, the duty to prosecute and hold responsible the perpetrators of such acts, to include legal persons, and paying attention to "high risk" entities involved in the financing of terrorism.

The international dimension consisted mostly in broadening the standard elements of international cooperation to cover persons providing financial support to terrorists (extradition, takeover of prosecution, penalization, or execution of penalty, provision of legal assistance, and joint operations of law enforcement agencies). Another element, like in the case of the fight against money laundering, is cooperation in the area of exchange of financial information, to include those constituting a bank secret (W. Filipkowski, "Międzynarodowe Seminarium nt. 'Financing terrorism, surveillance of financial transactions'" [International seminar entitled "Financing terrorism, surveillance of financial transactions], *Prokuratura i Prawo* 2010, no. 12, pp. 183-189). This publication presented analyses of acts of international law, the United Nations, the Council of Europe, and the European Union.

A particularly important role in the domestic system should be played by the General Inspector for Financial Information - the national financial intelligence unit gathering and analyzing information on transactions taking place in Poland in order to detect those that are aimed to finance terrorist operations (W. Filipkowski, "Wybrane aspekty funkcjonowania polskiej jednostki wywiadu finansowego w walce z finansowaniem terroryzmu" [Selected aspects of the functioning of the Polish financial intelligence unit in the fight against financing of terrorism], in: K. Indecki, ed., *Przestępczość terrorystyczna, Ujęcie praktyczno-dogmatyczne* [Terrorist crimes. A practical-dogmatic approach], Wydawnictwo WiS, Poznań – Białystok – Łódź 2006, pp. 219-235). The Habilitation Candidate proposed a hypothesis that in the near future most likely not a single person will be sentenced in Poland for financing of terrorism. On the other hand, it was much more likely that Polish state institutions would be asked to provide information on bank accounts or financial activities of some entities or to stop specific transactions or block specific accounts.

As a result of the research, mostly dogmatic and criminological, the Habilitation Candidate proposed the following postulates concerning the system for countering and suppressing the financing of terrorism:

- standardization of the terms used in the Penal Code and the Act of 16 November 2000 on Counteracting Introduction into Financial Circulation of Property Values Derived from Illegal or Undisclosed Sources and on Countering the Financing of Terrorism – the key thing is the relation between the terms "terrorist act" and "crime of terrorist nature;"
- introduction of a separate type of prohibited act that criminalized the list of behaviors generally referred to as financing of terrorism, e.g. pursuant to art. 2 (1) of the Council of Europe Convention of 16 May 2005 on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime and on the Financing of Terrorism (CETS No. 198) and its proper use in the Act of 16 November 2000;

- standardization of the power and duties concerning the fight against money laundering and the fight against financing of terrorism – in accordance with international standards;
- support of the General Inspector to the obligated institutions and cooperating entities, for example taking the form of preparation of recommendations and training for such institutions and entities concerning identification of suspicious transactions connected with financing of terrorism and familiarization with methods used by natural and legal persons supporting terrorist organizations.

One of the elements of this system was criminalization of behavior meeting the criteria of financing of terrorism. The Polish legislator fulfilled the international obligations and introduced this type of prohibited act into art. 165a of the Penal Code only in 2009 (W. Filipkowski, E. M. Guzik-Makaruk, "Kryminalizacja finansowania terroryzmu na tle prawnoporównawczym" [Criminalization of financing of terrorism on the comparative-law standard], *Studia Prawnoustrojowe* 2009, Vol. 10, pp. 43-65). This has led the Habilitation Candidate to conduct dogmatic and comparative-law research in this area. He found that it was unreasonable to place this regulation in Chapter XX of the Penal Code, among offenses against common security, as opposed to Chapter XXXII (offenses against law and order). Also, the solution provided for in art. 165a of the Penal Code limited financing only to the financing of crimes of criminal nature, while leaving financing of operations of terrorist groups themselves out of the scope of criminalization. The author of the amendment of the Penal Code should have considered introducing into the Code new prohibited acts that were in line with the strategy of the fight against terrorism adopted by the European Union and existed in the legislations of other countries. These acts included recruiting new members of terrorist groups, terrorist training, and terrorist propaganda. It appeared that such an approach would better meet the provisions of the Council Framework Decision of 13 June 2002 on combating terrorism. Also from the criminological point of view such a solution appeared to be absolutely necessary and effective. As a result of their research, the authors of the publication presented the following definition of the recommended prohibited act to be introduced in art. 258a of the Penal Code for further discussion:

"he who supports an organized group or association whose objective is to commit an offense of a terrorist nature, in particular gathers, offers, or transfers money, securities, currencies, ownership rights, or chattel and immovable property with the intent to be used, even partly, to finance an organized group or association whose objective is to commit an offense of a terrorist nature."

The last area of the Habilitation Candidate's pioneering dogmatic research was the problem of responsibility of collective entities for financing of terrorism. This possibility was introduced by the Polish legislator in the 2009 amendment of the Act of 28 October 2002 on the responsibility of collective entities for prohibited acts carrying a penalty (W. Filipkowski, "Odpowiedzialność podmiotów zbiorowych za finansowanie terroryzmu" [Responsibility of collective entities for financing of terrorism], in: J. Szafrański, J. Kosiński, ed., *Współczesne zagrożenia terrorystyczne oraz metody ich zwalczania, Materiały pokonferencyjne* [Contemporary threat of terrorism and methods of its suppression. Post-conference materials], Wyższa Szkoła Policji w Szczytnie, Szczytno 2007, pp. 166-181). This was one of the

international standard in the fight against financing of terrorism and was connected with the use of the so-called black lists of organizations supporting terrorism, which were prepared by international organizations and some countries. The publication described the relevant standards defined in the UN and Council of Europe Conventions and in the Directive of the European Parliament of 2005 concerning the subjective scope, the principles of responsibility, and the nature of the sanctions. These were compared to the 2002 Act on the responsibility of collective entities for prohibited acts carrying a penalty. However, problems with the interpretation of the term "offense of a terrorist nature," with practical application of art. 165a of the Penal Code, and the limited practice of holding collective entities responsible led to doubts as to the effective application of such responsibility with respect, for example, to companies collecting funds for terrorist groups. The publication also presented elements of criminalistic research on the possible techniques and methods of use of collecting entities for financing of terrorism, which were illustrated using the example of a case against the Chiquita company.

To conclude the above deliberations on the Polish laws regarding the financing of terrorism, one must state that they contain a number of elements that constitute grounds for the assumption that the system they form can work, but not effectively. Also, most likely, it will be largely consistent with relevant international standards. However, there are some problems that must be refined, e.g. the issues of a separate type of prohibited act, standardization of the terms, and broadening of the definition of obligated institutions. Moreover, the practical application of those laws and the actions taken by the General Inspector for Financial Information will largely determine their effectiveness in the fight against the financing of terrorism.

D. The fourth research area that the Habilitation Candidate has been interested in is **the sense of security among citizens in Poland**.

This is the result of the Habilitation Candidate's participation in the research conducted by the Department of Criminal Law and Criminology of the Chair of Criminal Law of the Faculty of Law of the University of Białystok as a part of the bespoke project entitled "Monitoring, identification, and countering of threats to the security of citizens" (G. B. Szczygieł, K. Laskowska, E. M. Guzik-Makaruk, E. Zatyka, W. Filipkowski, "Poczucie bezpieczeństwa obywateli i jego zagrożenia (założenia badawcze)" [Citizen's sense of security and threats to it (research assumptions)], in: L. Paprzycki, Z. Rau, eds., *Praktyczne elementy zwalczania przestępczości zorganizowanej i terroryzmu. Nowoczesne technologie i praca operacyjna* [Practical elements of the suppression of organized crime and terrorism. Modern technologies and operational work], Oficyna a Wolters Kluwer business, Warsaw 2009, pp. 340-354). The aforementioned project was one of several projects on the broadly-defined security performed at that Department (E. W. Pływaczewski, K. Laskowska, G. B. Szczygieł, E. M. Guzik-Makaruk, E. Zatyka, W. Filipkowski, "Polskie kierunki badań kryminologicznych nad bezpieczeństwem obywateli" [Polish directions of criminological research on the security of citizens], *Prokuratura i Prawo* 2010, no. 1-2, pp. 176-200).

As a part of this project, the Habilitation Candidate performed a study on the identification of contemporary threats to security by officers of the Central Office of

Investigation of the National Police Headquarters, the Prison Service, the Border Guard, the Central Anticorruption Bureau, and public prosecutors (W. Filipkowski, "Rozdział VI. Identyfikacja współczesnych zagrożeń bezpieczeństwa przez funkcjonariuszy publicznych" [Chapter VI. Identification of contemporary threats to security by public officials], in: E. M. Guzik-Makaruk, ed., *Poczucie bezpieczeństwa obywateli w Polsce identyfikacja i przeciwdziałanie współczesnym zagrożeniom* [Sense of security of citizens in Poland; identification and countering of contemporary threats], LEX a Wolters Kluwer business, Warsaw 2011, pp. 133-186). The various threats were divided in the survey into the following eight categories: organized crime, common crime, terrorism, cybercrime, cyberterrorism, bribery, social pathologies, and others. The scope of the categories was due to the subject of the bespoke research project. The respondents were to express their opinions on 26 social phenomena which, in the opinion of the authors of the research, constitute a threat to the security in Poland. The assumed objective of this part of research was to become familiar with the opinions of public officials responsible for ensuring security in various areas on those categories. Moreover, the authors analyzed in detailed whether the professional experience (length of the period of work) of the respondents affected their answers with respect to the individual phenomena.

In the case of respondents who work in law enforcement agencies, the answers given corresponded to the scope of their official duties. This was noticeable both in the analysis of the general results and in the opinions regarding the degree threat expressed by the different professional groups (W. Filipkowski, E. M. Guzik-Makaruk, E. Zatyka, "Wnioski" [Conclusions], in: E. M. Guzik-Makaruk, ed., *Poczucie bezpieczeństwa obywateli w Polsce identyfikacja i przeciwdziałanie współczesnym zagrożeniom* [Sense of security of citizens in Poland; identification and countering of contemporary threats], LEX a Wolters Kluwer business, Warsaw 2011, pp. 307-340).

The threat identified as the most important of the long list of threats present in Poland was illegal copying of discs with music, films, computer software, etc. The second threat was bribery in the health care system. What is surprising is the high rank of aggressive behavior of teenagers. This was interesting because only police officers and public prosecutors deal with such behavior at work. On the other hand, it is not surprising that the top ten threats included the two threats related to bribery that were mentioned in the survey. Lower in the ranking was trade in narcotics, which was mentioned here as one of the areas where organized crime operates. The social pathology of alcoholism also ranked high in the respondent's answers. Another large group was common crimes. As a significant threat to security in Poland, the respondents identified burglary, battery, and pocket theft. Economic crimes also received high notes. The threats identified by the respondents the least often were those related to organized crime and various forms of terrorism. This was interesting because the respondents were officials working at state bodies and were directly or indirectly involved in the fight against such problems. The respondents considered the risk of terrorist attacks and the associated bomb explosions as low. Even lower in the ranking were hostage taking and trade in protected plant and animal species. At the same time, the respondents considered trade in narcotics, economic crime, gains from prostitution, and racket.

An aspect studied on the aforementioned project was the sense of security of and threats to elderly people. According to the definition of the World Health Organizations, it was assumed that the category includes people who are over 60 (W. Filipkowski, G. B. Szczygieł, "Diagnoza poczucia bezpieczeństwa i zagrożeń ludzi starszych. Raport z badań. Poczucie bezpieczeństwa i zagrożeń osób starszych. Część II" [Diagnosis of the sense of security of and the threats to elderly people. A research report. The sense of security of and the threats to elderly people. Part II], in: M. Halicki, J. Halicki, K. Czykier, eds., *Zagrożenia w starości i na jej przedpolu* [Threats during old age and in its foreground], Wydawnictwo Uniwersytetu w Białymstoku, Białystok 2010, pp. 271-286). The aforementioned publication was prepared on the basis of the results of a study performed on a representative group of adult Polish citizens. In conclusion of this part of the deliberations, it can be stated unequivocally that the respondents felt secure. Their sense of security did not depend on whether their opinion concerned the entire country, their town/village, or their neighborhood. The overall sense of security was high, too. As the area where the security was evaluated was narrowed down, the number of persons who did not have a fixed opinion became smaller. Thus it was found that it was easier for the respondents to evaluate security in their small communities. It was assumed that in their evaluations of security, the respondents relied on their own observations and experiences. On the other hand, their evaluations of security in the entire country were based to a greater extent on information reported in the mass media, rumors, and stereotypical opinions. This applies to the same extent to the total group of respondents and to the elderly persons among them.

The respondents were asked to indicate the threats that they were familiar with related to the development of new lifestyles and new technologies. In the first case, elderly persons heard about such threats more rarely. This is most likely due to the fact that such threats did not directly affect the lives of elderly persons, respectively, in the sexual and professional sphere and in the electronic forms of communication. In the case of threats related to new technologies, the hypothesis was made that there is a "digital divide" that affects the population of elderly people. Their lack of awareness of the threats was due to the fact that they did not use new technologies in their daily lives. This hypothesis was confirmed by the answers of the elderly respondents to questions concerning their concerns about becoming victims of crimes and pathologies connected with computers or the Internet.

E. The methods of the education process

Within the sphere of scientific interest of the Habilitation Candidate were also **coursebooks in the field of criminal law**, which he co-authored. These include:

1. W. Filipkowski, E. M. Guzik-Makaruk, K. Laskowska, G. Szczygieł, E. Zatyka, *Przewodnik do kodeksu karnego* [A guide to the Penal Code], Temida2, Białystok 2007, 167 pages.
2. W. Filipkowski, E. M. Guzik-Makaruk, K. Laskowska, G. Szczygieł, E. Zatyka, *Przewodnik po prawie karnym, Seria akademicka* [A guide to criminal law. Academic series], Oficyna a Wolters Kluwer business, Warsaw 2008, 342 pages.
3. W. Filipkowski, E. M. Guzik-Makaruk, K. Laskowska, G. Szczygieł, E. Zatyka, *Przewodnik po prawie karnym, Tablice, Orzecznictwo, Kazusy* [A guide to criminal

law. Tables, jurisdiction, cases], 2nd edition, LEX a Wolters Kluwer business, Warsaw 2012, 428 pages.

The coursebooks present essential contents in a graphic form in order to enhance the effectiveness of classes, in particular practical exercises in criminal law. Also, a methodology was elaborated for conducting such practical exercises using both selected jurisdiction to illustrate the institutions of criminal law and properly prepared cases. The aforementioned manuals are useful not only to students but also to professors.

The Habilitation Candidate is **the author** of a manual in the English language for students participating in the LLP-Erasmus program, for the monographic course he teaches (W. Filipkowski, *Money Laundering – Legal and Economic Aspects*, Temida2, Białystok 2008, 51 pages). The manual presents a number of issues, such as the importance of money laundering to the economy of a state, the techniques and methods used in the perpetration of the offense, the international standards of countering it, the international and national regulations aimed to counter and suppress money laundering, and the provisions of substantive and procedural criminal law.

Also, the Habilitation Candidate has been interested in **the methodology of comparative-law studies**, which he conducts often, as confirmed in a part of the aforementioned publications. One of the products of the Habilitation Candidate's interests was the review of the following book: J. P. Lomio, H. S. Pang-Hassen, G. D. Wilson, *Legal Research Methods in a Modern World: a Coursebook*, Copenhagen 2010, published in *Prokuratura i Prawo* 2011, no. 11, pp. 160-165. The authors asked the Habilitation Candidate to review their work. The review also included suggestions concerning the plans and programs of legal studies in Poland aimed to better prepare the graduates for work in the international environment as well as young scientists for comparing the legal institutions implemented in different countries and legal cultures.