
ANNUAL REPORT 2021

European Network of Forensic Science Institutes

ENFSI



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ENFSI Board



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FSD Athens, Greece



Christina Bertler
Chairperson designate
NFC Linköping, Sweden



Dorijan Keržan
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ENFSI SECRETARIAT



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BKA Wiesbaden, Germany

Message from the Chairperson



Dear ENFSI members,
Dear Readers,

It seems like only yesterday when I introduced myself as Chairperson designate of the 23rd Board, in the Annual Report 2019.

Now two years later as Chairperson of the 25th Board, I am really pleased to present ENFSI's Annual Report 2021 which underlines our Network's significant activities for the past reporting year. A year which was again full of obstacles and difficulties due to the COVID-19 pandemic.

The past year's highlights:

ENFSI expanded once again as it welcomed a new Member, the Ukrainian Scientific and Research Institute of Special Equipment and Forensic Expertise (ISEE SSU).

"ENFSI Vision for EFSA 2030" was finalised. It is a document that expresses our Network's position regarding the upcoming forensic challenges. It's an initiative fully in line with our Network's purpose to promote science and research in the field of forensics and a "roadmap" for ENFSI in order to continue to be a valuable partner to its stakeholders such as the Law Enforcement Agencies and Judicial Authorities. Your dedication to the Network and your support to the Board's actions, as reflected in your active involvement during the commenting phase have been highly appreciated. Further information about the current status of ENFSI's Vision at EU level is available in the related article of this present report.

The interaction with our stakeholders remained productive and fruitful, as you will notice by reading this current report of 2021. For example, **CEPOL** invited ENFSI to participate in the European Strategic Training Needs Assessment (EU-STNA) in view of the new EMPACT 2022-2025, thus further recognizing ENFSI's role and its valuable input to research and training.

AFORE (Accreditation of **FOR**ensic laboratories in Europe) remains on track thanks to the hard work of all its actors, while an extension of 12 months has been granted by the EU Commission. Consequently, two Monopoly Programs

are implemented within 2022. The kick-off meeting for **CERTAIN-FORS** (Competency, Education, Research, Testing, Accreditation and **IN**novation in **FOR**ensic Science) which is actually the MP2020, already took place virtually in January 2022.

The **EAFS** 2022 (European Academy of Forensic Sciences conference) will take place in Stockholm, Sweden, on the 30th May till the 3rd June 2022, after a one-year necessary postponement, along with our Annual Meeting. The preparations of the organizer and host, the National Forensic Center of Linköping, are going well in sight of the success of this eminent forensic event.

ENFSI Board is grateful to all ENFSI Members participating as representatives in the Expert Working Groups or Steering Committees as well as members of the two Standing Committees (Research & Development and Quality and Competence Assurance), for overcoming the various difficulties that emerged from the ongoing pandemic and also for their active involvement in the various internal activities.

Closing, I would like to assure you that ENFSI, as a Network remains consistent with its history and stays focused on its mission by preparing itself for the upcoming forensic challenges. All the work that has been accomplished by the previous Boards and by the dedicated Members of ENFSI, who voluntarily and wholeheartedly got involved in several of the Network's activities, is recognized and made ENFSI this great Association. This is establishing the basis for its future development.

I hope you will enjoy reading this year's report and that as many of you as possible can get to meet up in Stockholm!

Yours,
Pinelopi Miniati
Chairperson of the 25th ENFSI Board

As criminal activities become more and more sophisticated and technologically advanced, the role of Forensics and our contribution in the common effort "Together for a safer world"¹ is eventually more valuable and more demanding than ever before.

¹EAFS 2022 motto

Christina Bertler

Chairperson designate of the 25th ENFSI Board



Dear ENFSI Members,
Dear Readers,

ENFSI is important for the European Forensic Community and it is an honor to be the network's Chairperson designate. Over the years, ENFSI has been committed to work on the professionalization in the organization, including the process of defining strategic documents, cooperation within other regional forensic networks and stakeholders. I will do my best to support the continuation of this development and to encourage cooperation within ENFSI and its stakeholders.

There are several initiatives concerning forensic science running in parallel with ENFSI, it is essential for the future to identify common areas of interest to ensure closer and structured cooperation.

The Standing Committees (SC) and Expert Working Groups (EWG) are the focus for commitments within ENFSI to fulfill the mission to "share knowledge, exchange experiences and come to mutual agreements in the field of forensic science".

My experience in the forensic field started in 1990, in the Drugs Section of the Swedish Forensic Laboratory (SKL). Having been active in the field for more than 30 years (in several different positions), I remember the days before ENFSI was established as an organization. SKL cooperated

with forensic colleagues, mainly from the Nordic countries. It was a rare event to meet colleagues from other European countries or experts from other parts of the globe. The situation has now changed completely and there are very fruitful collaborations between forensic colleagues in Europe and worldwide. The co-operation opportunities facilitated by ENFSI are necessary to ensure the provision of relevant forensic competence and results for increasingly complex and extensive cases, to support the judicial process.

The ENFSI meeting in Rome, November 1994, was the first event I attended. I joined Ingvar Kopp (Former Director of SKL) at the meeting and listened to a presentation about the automation of casework in the Drugs Section at SKL. Since then, I have lost count of the number of ENFSI meetings I have attended in different constellations, mainly in the Quality and Competence Committee (QCC- Chairperson 2003- 2013), the Drugs Expert Working Group and as a Permanent Representative of The National Forensic Centre (NFC) of the Swedish Police Authority (2018-).

I look forward to continued cooperation within ENFSI and its stakeholders!

Yours,
Christina Bertler

¹ ENFSI Vision of the European Forensic Science Area 2030

² E.g. IFSA International Forensic Strategic Alliance

³ E.g. MoU ENFSI-Europol, MoU CEPOL-ENFSI, MoU EA

⁴ From ENFSI Mission Statement

Aleksandar Ivanović

Member of the 25th ENFSI Board



Dear ENFSI members,
Dear Readers,

I have been working on forensic examinations, analysis and expertise since 1994 at the Centre for Criminal Technique of the Police of Montenegro, which since 2008 has grown into a Forensic Centre. Within this unique forensic institution in Montenegro, I passed all hierarchical levels. I worked as an expert in the field of gunpowder traces and determining shooting distance, after which, I was the head of the chemical testing department, then Deputy Director (and Quality Manager) and for the last three years I have been the Director of the Forensic Centre of Montenegro.

Along with my career as a forensic scientist within the Montenegrin police, I also worked on scientific research and received my Master's and Doctoral degrees in the field of forensic research on firearms traces. I acquired the title of full university professor and I am engaged as a lecturer at several faculties in subjects in the field of forensic sciences (Fundamentals of Forensics, Criminalistic Identifications, Criminalistic Expertise, Criminalistic Procedures ...).

My first meeting with the ENFSI Association was at the EAFS 2003 in Istanbul (Turkey). At that imposing and impressive gathering, as well as at the others organized by ENFSI, I gave a presentation in the field of traces of firearms.

After that, I was an active participant in the EWG in the field of ballistics/GSR. With the establishment of the new, modern Forensic Centre of Montenegro in 2008 and meeting the demanding standards in the field of forensics, I and my associates have undertaken the necessary activities for the admission of our institution to ENFSI. After an evaluation visit and positive results, the Forensic Centre of Montenegro was officially admitted to the ENFSI membership at the Annual Meeting in Ankara (Turkey) in 2009. From that day until today, I am the Permanent Representative of the Forensic Centre of Montenegro in ENFSI. Since then, I have been a regular participant in annual standing meetings and the three-yearly EAFS events.

It is a great honour for me to actively participate in the work of ENFSI. ENFSI is the only association of its kind in Europe, which provides accessibility to all its members and enables

them to get acquainted with both scientific-professional and managerial-organizational, achievements in the field of forensics.

Forensic scientists in Europe have organized themselves through ENFSI, in a unique and original way, as other similar professions have failed to do so far, such as criminal investigators, police in general and others.

I felt a responsibility to stand for the ENFSI Board and it is a great honour for me that I was elected to the ENFSI Board in 2021. My goals, as well, as the vision of my engagement in the ENFSI Board, are as follows:

- Active participation in the work of all current activities of the Board.
- Promoting ENFSI, by presenting the work and activities of our association at scientific and professional meetings in Europe and the world;
- Work on invigorating the publishing of activities of ENFSI:
 - Publishing a periodical scientific-professional journal;
 - Publishing monographs, textbooks and similar publications.
- Work on standardising and raising forensic quality standards across all European countries, including forensic laboratories that are members of ENFSI whose countries are not members of the European Union (there are a total of 18 laboratories from 10 countries).

All these proposals aim at advancing and bringing our ENFSI community closer, through one sentence of the ancient Romans:

Gens una sumus

Yours,
Aleksandar Ivanović

Chris Porter

Member of the 25th ENFSI Board



Dear ENFSI members
Dear Readers

I was honoured and excited to be voted onto the ENFSI Board in May 2021 and am aware of the trust placed in me to work with you all and the other members of the Board, to promote ENFSI's aims and ensure that we collectively are world leading in terms of the quality, development and delivery of forensic science throughout Europe.

I joined the London Metropolitan Police Forensic Service in 1984 and have worked in a broad range of both operational and management roles, giving me a deep understanding of how forensic science operates within the criminal justice system to tackle crime and criminality and the challenges of delivering quality services that keep pace with the needs of modern policing whilst best serving victims of crime.

In August 2018 I had the honour of being appointed as the Director of Forensic Services. This gives me the overall responsibility of delivering to one of Europe's largest cities. With over 1200 staff, Metropolitan Police Service (MPS) Forensic Services has a central London base from where we undertake specialist laboratory functions including search, recovery and interpretation of blood and body fluids, Fingerprint enhancement and comparison, Specialist Imaging, Firearms and Digital Forensics. We are also the custodians of a number of National databases and provide a forensic response to national activities in support of Counter Terrorism and Disaster Victim identification. Across London, operational field based staff undertake crime scene examination and management, CCTV recovery and Digital Forensics.

Given our size, scope and reflecting the national role of the MPS, it follows that we lead on a number of national initiatives and programmes. Last year, on behalf of the National Police Chiefs Council (NPCC) I took on the role as the NPCC lead for Forensic Quality. In this, I am responsible for driving the national agenda for quality standards in all aspects of forensic science which the Forensic Science Regulator (FSR) describes

in his Statutory Code. Colleagues may be aware that England & Wales has had a non-statutory publicly appointed Regulator for Forensic Science since 2007 and last year the Government passed the FSR Act which placed the role on a statutory footing with significant powers to monitor, investigate or suspend organisations from undertaking forensic science activities where the Regulator deems there to be significant risk to the Criminal Justice System.

The range of skills, knowledge and experience within MPS Forensics also allows us to be innovative in delivering solutions to policing. Very recently, we achieved ISO 17025 accreditation for 'Real Time' DNA processing, enabling us to undertake the rapid analysis of DNA (buccal samples) from arrestees and generate a DNA profile for search against our national databases whilst in police detention. A world first in terms of the rapid processing of DNA reference samples through 'desk top' devices outside of a laboratory environment, we are now piloting the process to understand fully the benefits.

The MPS has always been keen to be actively involved in developing policing and forensics on the international stage. We joined ENFSI in 1993 and I have been a Permanent Representative since 2018. I continue to encourage and support my teams to be involved in the ENFSI Working Groups and Standing Committees and identify those areas in which we don't currently participate but in which my teams could contribute.

With the full support of the MPS, I was pleased to be in a position to commit more of my own time to support the aims and objectives of ENFSI and was proud to be elected to the Board. With the publication of the ENFSI Vision, it is an exciting time to have joined and be afforded the opportunity to be involved in furthering the Vision. I hope that my own contribution over the next years will allow me to pay back some of the value that we have gained from ENFSI by furthering the field of Forensic Science for the European Criminal Justice community.

Yours,
Chris Porter

ENFSI Secretariat



Dear ENFSI members,
Dear Readers,

Another year has passed without any face-to-face meetings. We have become accustomed to ENFSI Board video conferences taking place at regular intervals; ENFSI Annual Online Meetings and ENFSI Joint Online Meetings. We have become familiar with how to speak up online and how to moderate a chat room. An interesting observation is how quickly one gets used to this different territory and how quickly all this becomes daily routine.

Changes are there to be mastered, while not losing sight of the common goal and to continue working together on the things that are considered important. Again in 2021, ENFSI has made this happen.

Even though the Secretariat is preferably involved with the association's administration, it is also motivating for us to see all the dedicated active work done within ENFSI. The Annual Report 2021 illustrates these activities, successes and steadily increasing professionalization of our network.

We would like to thank the membership for all the "virtual" appreciative words and support! We are very much looking forward to meeting many of you in person again soon.

We hope you enjoy reading our annual brochure!

Sincerely,
Nina & Bianca



NEW PLACES NEW FACES

NEW PLACES NEW FACES

THE UKRAINIAN SCIENTIFIC AND RESEARCH INSTITUTE OF SPECIAL EQUIPMENT AND FORENSIC EXPERTISE OF THE SECURITY SERVICE OF UKRAINE (ISEE SSU)





The Ukrainian Scientific and Research Institute of Special Equipment and Forensic Expertise of the Security Service of Ukraine (ISEE SSU) is a specialized expert state institution for scientific research. The ISEE SSU began its history in 1993 with the foundation of the scientific and research institution within the Security Service of Ukraine, which was tasked to provide the subdivisions of the Service with special technical means and special equipment.

ISEE SSU performs activities in the following areas:

- forensic activity (forensic, technical and criminalistic support for SSU agencies and subdivisions, other law enforcement agencies and courts);
- scientific and technical activity (scientific research and experimental development of special technical means for lawful interception and special equipment);
- production activity (manufacturing and implementation of special technical means for lawful interception and special equipment);
- product conformity assessment (conducting measures on product conformity assessment, standardization and quality control, telecommunication and instrumentation equipment testing, product certification).

Forensic activities are conducted by the Centre of Forensic and Special Expertise of the ISEE SSU and 15 separate expert subdivisions in the SSU regional agencies.

More than 300 scientists, researchers, forensic experts and specialists are employed by the Institute. 36 types of forensic expertise in 98 forensic disciplines are covered by more than 120 licensed forensic experts.

33 of the forensic disciplines that the experts of the ISEE SSU perform examinations in, are unique, and not currently provided in any other forensic institution in Ukraine including:

- determination of the electronic device geolocation;
- assessment of the possible consequences of the use of explosive devices;
- examination of special technical means for lawful interception (audio and video surveillance, determination of the radio electronic device geolocation, entering the object using electronic devices, lawful interception from telecommunication networks);
- examination of software for lawful interception;
- examination of radio electronic equipment;
- examination of the objects of critical infrastructure.

The Institute possesses the most extensive experience in the following types of forensic examinations: handwriting, portrait (facial recognition), trace marks, dactyloscopy (fingermarks), computer and technical, documents, explosive and technical, firearms, video and sound recording, linguistic, author identification, economic, fire

and technical, construction and technical, drugs and psychotropic substances.

Its customers are law enforcement agencies, prosecutor's offices and courts. Forensic examinations are also conducted on request of advocates and persons defending themselves in courts on their own, their representatives, individuals and legal entities.

According to the Criminal Code of Ukraine the ISEE SSU experts are engaged in the scene of crime investigation within the investigative groups, providing technical and criminalistics support of operational measures and investigative activities.

The scope of ISEE SSU accreditation in compliance with requirements of ISO/IEC 17025 encompasses:

- computer and technical examinations;
- handwriting examinations;
- dactyloscopic examinations;
- technical expertise of documents;
- firearms and cold steel arms examinations;
- examination of narcotic drugs, psychotropic substances, their analogues and precursors.

In 2022 it is planned to achieve accreditation in accordance with ISO/IEC 17020 standards in the fields of commodity expertise, economic expertise and engineering and technical expertise (examination of the causes and consequences of breaching the requirements for life safety and labor protection, construction and technical examinations, land and technical examinations, evaluation and construction examinations, land evaluation). Accreditation of ISEE SSU according to the requirements of ISO/IEC 17065 is also planned in the area of firearms examination.

The researchers of the Institute conduct scientific, research and methodological activity, including development of forensic methodologies and guidelines. Within the period of 2019-2021 more than 260 scientific papers were developed by the scientists and experts of the Institute. In 2021 an annual International scientific and practical conference "Forensic activity in the Security Service of Ukraine: current issues of theory and practice" was initiated, which resulted in a profound analysis of the actual problems of the theory and practice of forensic activity and determining the areas of development and prospects for further improvement.

The Institute has its own academic periodical "Collection of the Ukrainian scientific and research Institute of special equipment and forensic expertise of the Security Service of Ukraine", aimed at covering the relevant issues of forensic support of justice and law enforcement, technical and criminalistic and explosive technical support for counter-



intelligence, investigative and operational activities, combating terrorism, cyberterrorism and cybercrime as well as design, manufacture, implementation and conformity assessment of technical means, special technical and telecommunication equipment.

For us joining ENFSI has opened new opportunities for learning and information exchange with leading European forensic institutions through participation in the activities of working groups and scientific and practical events organized by ENFSI.

Andrii SVINTSYTSKYI,
PhD in Law,
Honored Lawyer of Ukraine,
director of the ISEE SSU,
Kyiv, Ukraine



ENFSI VISION

ENFSI VISION

ENFSI Vision of the EFSA 2030

Following the experience gained from the Network's active involvement in the implementation of EFSA 2020 Action Plan, the ENFSI Board took the initiative to move forward towards a new Vision of the European Forensic Science Area 2030. Namely "Improving the Reliability and Validity of Forensic Science and Fostering the Implementation of Emerging Technologies".

Given that forensics play a prominent role in the work of Law Enforcement and Judicial Authorities, all the way from the crime scene to the courtroom, ENFSI believes that sustaining the efforts for continuous improvement of forensic procedures and processes, is of paramount importance in maintaining the Union as an area of freedom, security, and justice. The various valuable deliverables of the EFSA 2020 Action Plan could form the basis to build upon in the future.

In light of this, the ENFSI Board in cooperation with ENFSI representatives from the upcoming Presidency Trio of the EU Council (France, Czech Republic, and Sweden) drafted the document "Vision of the European Forensic Science Area 2030". The Vision is a position statement providing a European direction and promoting research, development, and innovation for forensic science. This step is also in line with the second pillar of ENFSI's Strategic Plan 2020-2023 (referring to the consolidated interaction with the Network's stakeholders and partners) which is reflected in Action 2.4 (Preparation of EFSA 2) of ENFSI's Action Plan as well.

The "Vision" has been formulated upon the "Trends in Forensic Science" which in itself was a product of ENFSI's collaboration with its strategic partners in IFSA and it is further intended to serve as one of the Network's Strategic Planning Instruments.

It is important to note that the "Vision" was forwarded to the Membership for comments and reviewing before being finalised. The wide response to the Board's call was really impressive and highly appreciated. Numerous insightful and perceptive remarks were received and incorporated in the final version of the document, resulting in a collective and highly professional product.

The Vision is structured in three pillars with focus areas that are important for ENFSI when developing strategic plans and defining new project themes.

1. Meeting the future

- 1.1 Biometrics
- 1.2 Application of artificial intelligence
- 1.3 New tools for crime scene investigation
- 1.4 Emerging biological and chemical evidence types "-omics"
- 1.5 Emerging technologies and Industry 4.0

2. Strengthening the impact of forensic results

- 2.1 Transfer, persistence and background abundance
- 2.2 Forensic data sharing
- 2.3 Facing the challenges with Migration-Trafficking-Smuggling

3. Demonstrating Reliability in forensic Results

- 3.1 Fundamentals in Forensic Science
- 3.2 Forensic Human Factors
- 3.3 Quality and Competence Assurance

Furthermore, in order to disseminate ENFSI's Vision, our Network's proposal for EFSA 2030 will be included in the agenda of two LEWP meetings, during the 1st semester of 2022 (French Presidency), before and after EAFS 2022, respectively. A presentation of the ENFSI Vision delineating a future EFSA 2030 will be delivered by the ENFSI Board during the 1st meeting. In the agenda of the 2nd meeting after EAFS 2022, an extra point will be included related to the reflections generated during the European Day, given the forthcoming work on the draft Council Conclusions.

Looking forward, the members of ENFSI's Trio, following the course of action of their respective Presidencies, will keep the ENFSI Board updated with any developments relative to the ENFSI's Vision. As the ENFSI Board is looking forward to the Membership's support, all ENFSI Members will be notified in a timely manner to "activate" and inform their national representatives in order to be in favour of the Vision whenever it arises for discussion in the competent European preparatory bodies.

ENFSI's initiative for a new EFSA –EFSA2030- reflects its willingness to keep forensics at the forefront of the EU's political agenda. The proposed forensic research areas will deliver products that will facilitate our stakeholders, namely Member States' Law Enforcement and Judicial Authorities to successfully tackle the emerging challenges that continuous technological advancement brings.

Cooperation of the "EU-Trio"

ENFSI has been actively involved in the implementation of the European Forensic Science Area 2020¹ (EFSA 2020). Several ENFSI projects, co-financed by the European Commission, have been focused on activities defined in the action plan of the EFSA 2020.

Since 2020 has passed, the intention is to establish a way to focus on the development of forensic science areas that are essential for the law enforcement agencies in Europe. The in-coming trio of the EU-presidency (France, Czech Republic and Sweden) have representatives within the network. The Permanent Representatives from the trio-countries were approached by the ENFSI Board in the fall of 2020 and requested to explore the possibility of establishing the continuation of EFSA.

The collaboration after discussion, was split into two separate actions. The first action was to define and write a strategic document addressing issues relevant for the forensic community. The result is the ENFSI Vision of the European Forensic Science Area 2030. The close cooperation with the International Forensic Strategic Alliance² was essential during the process of drafting the ENFSI Vision. The draft was circulated for comment within ENFSI, the responses from the Member institutes were extensive and positive, with useful input to the document. Now there is a published ENFSI Vision document available on the website ENFSI.eu.

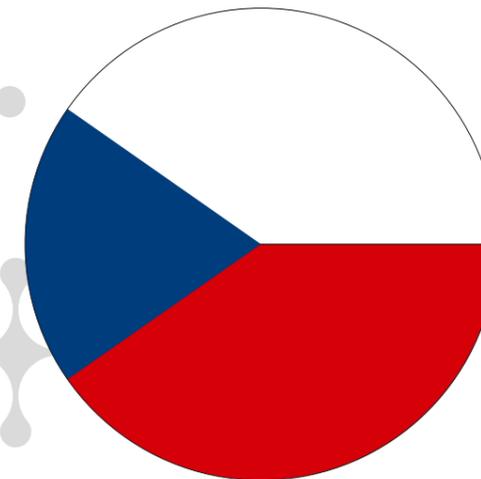
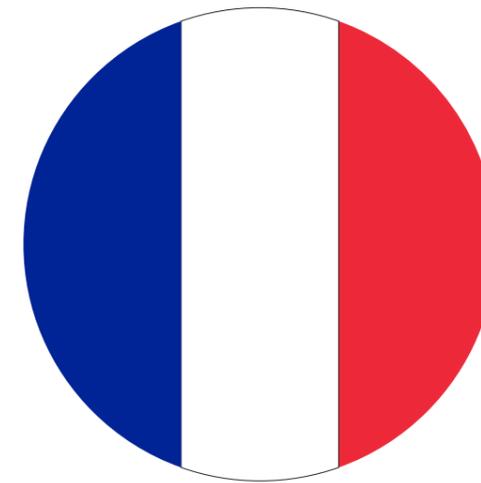
The second action will be continued by the trio-countries and communicated with the national organizations involved in the EU-presidency of the Trio. The possible continuation of the work with new Council conclusions is a prioritised question of the Trio member states. The French EU-presidency have invited ENFSI to give a presentation of the ENFSI Vision at the Law Enforcement Working Party (LEWP) meeting in March 2022 as well as a feedback presentation after discussions on the topic at the European Academy of Forensic Science 2022, 30 May- 3 June in Stockholm, Sweden. National contacts within the Czech EU Presidency have expressed positive views on the preparation of Council conclusions to be presented and negotiated during the Czech Presidency. The priorities during the Swedish EU- presidency are still under negotiation. They will depend on the progress of

the work of the Czech Presidency. ENFSI Members will receive information about the development continuously.

Dominique Saint-Dizier
(SNPS, Ecully, FR)

Pavel Kolar
(ICP, Prague, CZ)

Christina Bertler
(NFC, Linköping, SE)



¹ 10128/16 Council Conclusions and Action Plan on the way forward in view of the creation of an European Forensic Science Area

² For more information on IFSA please visit ifsa-forensic.org

ENFSI IN CLOSE- UP

ENFSI IN CLOSE-UP

Expert Working Groups (EWGs)



Animal, Plant & Soil Traces

All biological traces of non-human origin and soil traces

Chair: Irene Kuiper, Netherlands Forensic Institute

Activities:

22 April 2021, Annual meeting, online via Webex
Online meetings Steering Committee: 2 February 2021,
23 February 2021, 9 March 2021, 23 March 2021, 30
March 2021, 13 April 2021, 6 December 2021
Proficiency tests: (1) non-human DNA, species ID

Digital Imaging

Image and video processing and enhancement;
Image and video authentication; Image and video
generation/creation; Image and video recovery; Facial
Image comparison (1 to 1, 1 to many, automated
facial recognition systems); Photogrammetry and 3D
techniques; Augmented and Virtual reality

Chair: Patrick De Smet, NICC

Activities:

Annual Meeting online
Facial Image Comparison PT
Image Authentication Best Practice Manual (MP2018)
published on ENFSI website
Steering Committee meeting online
AFORE Monopoly Project: Image Authentication BPM
AFORE Monopoly Project: Training of assessors in
facial image comparison

DNA
DNA testing; Forensic Biology and Casework; Forensic Analyses and Interpretation; Automation and Expert Systems, DNA Database and Legislation
Chair: Alexander Kneppers, Netherlands Forensic Institute
<p><u>Activities:</u> 6 steering committee meetings, one day Spring working group meeting and two days Autumn working group meeting. All meetings were held online.</p> <p>group updates on: -Quality Management -Monopoly projects - dna database management and legislation '-Rapid DNA, technological advancements and practical use '- Laboratory workflows '- Massive Parallel Sequencing, validation and implementation '- Use of RNA methods in casework - Genetic Genealogy -Interpretation software and statistical analyses</p> <p>Update/writing of Best Practice Manual and guideline documents</p> <p>Workshops on: - Mixture analysis and data interpretation - Kinship analysis and interpretation</p> <p>Two monopoly 2020 projects (WP5 and WP9)</p>

Documents
All kind of technical and chemical document examination
Chair: Andreas Rippert, Competence Center Forensic SG, Switzerland

Drugs
Examination of drugs
Chair: Irene Breum Müller, Institute of Forensic Medicine University of Copenhagen
<p><u>Activities:</u> The Steering Committee (SC) had 7 online meetings to prepare a online DWG meeting: 2 x ½ day on the 1st - 2nd June 2021. There was 93 participants. The SC had a private provider for the meeting: Top Kinisis Conferences (Cyprus). Zoom was used.</p> <p>The DWG has achieved the following this year: Several members of the DWG participated as speakers in the 2021 Forensic symposium: 'Current Trends in Seized Drug Analysis' held between 18th and 22nd January. A similar symposium will be held between 24th and 28th January 2022</p> <p>The 'ChemoRe' software which can be used in conjunction with the published 'Guideline for the use of Chemometrics in Forensic Chemistry', was published on the open website, are available for download.</p> <p>The 26th Drug Working Group Annual Meeting was held on Zoom between 1st and 2nd June 2021.</p> <p>Several members of the DWG participated as speakers in the 'First Joint UNODC, US-DEA and ENFSI Forensic Science Symposium' sessions on 27th September, 4th October and 12th October 2021.</p> <p>The NPS Data Hub is now populated with a large amount of data from the DWG group, from the Adebar project, the Response Project and other coworkers.</p> <p>October the SC finally managed to meet, in Wiesbaden. Topics discussed at the meeting included:</p> <ul style="list-style-type: none"> • The need to work with the QC Subcommittee to develop a mechanism for reviewing the guidelines and the BPM. • The action that should be taken with laboratories that do not pay the fee to participate in the PT. • The future strategy for the activities of the DWG.

Fingerprint
Visualisation, imaging and comparison of fingermarks
Chair: Aldo Mattei, Raggruppamento Carabinieri Investigazione Scientifiche, Italy
<p><u>Activities:</u> 2021 Virtual Annual Meeting on the following dates 9, 13, 16 Dec. 2021</p> <p>Virtual presentations on the following topics: 1. Visualisation: difficult surfaces- -eggshells 2. Visualisation: validation of positive control checks for the treatment of sticky side of tapes 3. Comaprison: frequencies of minutiae types in the populaton of the Netherlands and its implications the determination of the likelihood ratio 4. Visualisation: Result of a survey on the processing of blood-contaminated fingermarks 5. General: design of a multidisciplinary laboratory environment 6. Visualisation, Imaging and comparison: outcomes of a multidisciplinary collaborative exercise (DNA, documents, Handwriting and fingerprint)</p> <p>#4 Virtual Steering committee meetings</p> <p>Collaborative exercises and Proficiency tests: 1. 2020 ACE (Comparison) PT/CE 58 lab registered; 53 returned full response - no limitations to the number of participants Report issued on 29 May 2021 - Single laboratory response sent on 29 May 2022 2. 2020 Visualisation PT/CE 40 labs registered; 40 returned response - maximum number of participants allowed 40 Report issued on 6 May 2021 - Single laboratory response sent on 6 May 2022 3. 2021 ACE (comparison) PT/CE launched 50 laboratories registered - samples distributed on 3 Dec. 2021 - Deadline (extended) for replies on 21 Feb. 2022 4. 2021 Visualisation PT/CE launched 35 labs registered; - maximum number of participants allowed 35 - Samples still in preparation by UNIL to be sent out in Spring 2022.</p> <p><u>Other activities</u> MP2020 CERTAIN-FORS WPs granted WP 9 Multidisciplinari PTs/CEs WP10 PTs benchmarking in the fingerprint domain WP11 BPM for fingerprint examination 2nd Edition</p>

Handwriting
Handwriting and Signature Examination and Comparisons
Chair: Tomasz Dziedzic, Institute of Forensic Research, Poland
<p><u>Activities:</u> - 13th ENFHEX Conference and Business Meeting "Handwriting without Borders" online event, 16-18 June 2021 - 7 Steering Committee meetings (online: 26.012021, 2.03.2021, 13.04.2021, 11.05.2021, 8.06.2021, 6.09.2021, 29.10.2021) - Business Meeting (online: 17.06.2021) - Adoption of the new edition of the Framework document (FHX-FWK-001, issue 4, 16.10.2021) - Organising ENFHEX Collaborative Exercise (CE21); - Article published (as part of the STEFA G8 Project): J. Zimmer, N. Kalantzis, T. Dziedzic, et al., The challenge of comparing handwriting captured with different software and hardware, Forensic Science International, 327, https://doi.org/10.1016/j.forsciint.2021.110945 - Admission of 2 new Associate Members: Australian Federal Police - Forensic Document Sciences Team Document Examination Division from the Department of Chemistry Malaysia - Successful application for MP2020 with the project "Training and competence assessment for Forensic Handwriting Experts"</p>

Paint & Glass	Textile & Hair	Explosives	Fire and Explosions Investigation
Investigation of glass, coating systems (Paints/spray paints/, tape and security dye)	Fibres identification and comparison, textile identification and comparison; textile and fibres damages/physical fits; textile video imaging; hair identification and comparison	Examination of physical evidence (improvised explosive devices or post explosive debris); chemical analysis; expert witness testimony; crime scene investigation	All aspects of fire scene investigation and the investigation of diffuse phase explosions. All aspects of the chemical analysis and interpretation of fire debris.
Chair: Knut-Endre Sjustad, KRIPOS, Norway	Chair: Jan-Eric Grunwald, Bayerisches Landeskriminalamt, Germany	Chair: Matthew Beardah, Forensic Explosives Laboratory (Dstl), United Kingdom	Chair: Eva Ljungkvist, Danish National Police, National Forensic Services, Denmark
<p>Activities: Steering Committee meetings (online): Jan 2021, 4 Feb 2021, 19 Mar 2021, 6 Apr 2021, 5 May 2021 Jun 2021, 20 Jul 2021, 31 Aug 2021, 1 Sep 2021 8 Sep 2021, 5 Nov 2021, 21- Dec 2021 (12in total)</p> <p>Annual Meeting online: 13-17 Sept 2021</p> <p>EUCAP Coordination Group: Meeting March 2021, Nov 2021 (online); organising a questionnaire on the EUCAP collection; organizing a R&D project on color measurement system Colorcatch Nano; Migrating database from "in house platform" to EPE</p> <p>Development of Basic Learning Package for freshmen in the field of forensic paint investigation. Cooperation with ETHG to develop a package at the same web-platform/e-learning system as the already existing training package developed by ETHG.</p> <p>Two Workshops, on-line on Risk Analysis (April 2021) and The use of EPE (June 2021)</p> <p>Collaborative exercise on Paint, organized by the EUCAP coordination group (results presented at the AM 2021).</p> <p>Quality Two BPMs are under revision and will be finalized in 2022, Glass BPM and Paint BPM</p> <p>Taggants and security ink subgroup have organized three meetings (on-line). Topics for two meetings were Intelligent Banknote Neutralization Systems and analytical expertise of National Banks with respect to security inks and taggants. The third meeting was a general meeting (14 participants), presenting cases and planning for future activities within the field of security ink/taggants (CEs etc).</p>	<p>Activities: Meetings/Online Meetings:</p> <ul style="list-style-type: none"> - 5th March: Steering Committee video meeting - 13th April: Steering Committee video meeting - 9th June: Steering Committee video meeting - 15th-16th June: ETHG 2021 Annual Meeting (on-line); >100 participants - 17th June (half day): Interactive feedback workshop (on-line) on the revised BPM for the Forensic Examination of Fibres (AFORE) - Revision & update, incl. internal and public review processes, of the Best Practice Guidelines for the Forensic Examination of Fibres (BPM) within the AFORE project framework 	<p>Activities: Steering Committee meetings: 29. Jun 21; 12th Nov 2021; 3rd Dec 21</p> <p>During 2021, the Expert Working Group on Explosives (EWGE) hosted several technical on-line sessions designed to maintain collaboration while the COVID-19 pandemic caused disruption to in-person meetings. Two 'Ask-An-Expert' sessions, in February and May, were a chance for members of the EWGE to ask advice from our international network of experts, regarding current casework, analytical and quality management challenges within their organisations. In October, a seminar on 'Sampling and analysis of organic explosives traces/residues' involved presentations from a range of the EWGE membership and involved participation from 55 institutes from 40 nations. The session was a significant success for the EWGE, enabling valuable sharing of experiences for all our members.</p> <p>Proficiency test on the recovery and identification of organic residues from metal and plastic substrates</p> <p>The EWGE's annual Proficiency Test involved the recovery and qualitative identification of organic residues from various surfaces. Traces (approx. 2 ug) of RDX and HMX on metal and plastic surfaces, representing post-explosion residues collected from a vehicle following an apparent explosion, were provided to participants. A qualitative assessment of the explosives found on the samples was required, and involved laboratories using their standard processes for recovering residues from evidence, with processing and analysis of the resulting samples. The results of the proficiency test demonstrated a number of learning opportunities across the EWGE and the potential for the EWGE to develop best-practice protocols regarding sampling of evidence and methods of analysis for explosives residues.</p>	<p>Activities: Report on ENFSI FEIWG workshop on line 2020 - 6 case studies in virtual reality FEIWG Annual meeting 2021 - on line Preparations for FEIWG Annual meeting 2022 at the EAFS 2022 conference:</p> <ul style="list-style-type: none"> - 2 workshops on virtual reality - Annual meeting - sub group meeting Accelerants - sub group meeting Fire and explosions <p>ENFSI approval of FEI BPM after international review and QCC revision FEI steering committee meetings - 8 over the year ENFSI annual report from FEI Fire Investigations course at the Fire Academy Revinge, Sweden - 30 participants Participation at the ENFSI joint chair meeting CE19 – Italy – conducted 2020 – report to be finished in 2022 CE20 – France – conducted 2021 – report to be finished in 2022 CE21 – Norway – to be conducted in 2022</p>

Firearms / GSR
Detection & Identification of gunshot residues; shooting distance determination; firearms identification; ballistics
Chair: Zuzanna Brozek Mucha, Institute of Forensic Research, Poland
<u>Activities:</u> Steering Committee Meeting 1/21/21
Steering Committee Meeting 4/14/21
ENFSI Webinar - GSR 5/31/21
Steering Committee Meeting 6/21/21
R&D Project Meeting 7/23/21
GSR R&D Project meeting 9/10/21
Steering Committee Meeting 9/17/21
GSR R&D Project meeting 9/20/21
Firearms and GSR WG 27th Annual Conference - on- line 6 to 8 -10-21
ENFSI Proficiency Test on Identification of GSR by SEM/EDS 6/9/21
Proficiency Test on Shot Range Estimation "PT-PB-2021" 8/30/21
Publication conducted as part of the EU-funded MONOPOLY-2014 – N2A project (HOME/2014/ISFP/AG/ENFS/4000007822): A. Stamouli et al. (2021) Forensic Chemistry, 23: 100308 1/21/21
Correspondance letter "Firearms and Gunshot Residue" A. Stamouli and A. Walters (2021) AFTE Journal, 5(1): 3 2021

Forensic Information Technology
Digital Evidence
Chair: Zeno Geradts, Netherlands Forensic Science Institute (NFI), The Netherlands
<u>Activities:</u> 15 May online meeting of our working group with over 90 participants
15 June Steering Committee meeting
21 - 23 September Joint Hybrid meeting of ENFSI Forensic IT with COST project DigforASP in Malaga on Artificial Intelligence in Digital Evidence
17 October Steering Committee meeting
New EU projects that started with many members of FITWG Uncover (on stego-analysis) and Monopoly project App Analysis is approved and first steps for collaboration have been taken
The Journal Forensic Science International : Digital Investigation, Zeno Geradts has become co-chief editor and in 2021 around 10 publications have been published by members of the working group around 10 peer reviewed publications have been published by members of our working group

Forensic Speech and Audio Analysis
Forensic Speaker Recognition; Audio Enhancement; Audio Authentication
Chair: Dagmar Boss, Bayerisches Landeskriminalamt (BLKA), Germany
<u>Activities:</u> Annual WG meeting, online on the 3 November
SC online meeting 27 September
Work on 2 BPMs: 1. on Speaker Comparison (AFORE, MP 2018), 2. on Digital Audio Authentication (without a project)

Scene of Crime
Crime Scene Investigation, Bloodstain Pattern Analysis (BPA), Forensic Archeology
Chair: Paul van den Hoven, Netherlands Forensic Institute (NFI) The Netherlands
<u>Activities:</u> Archeology Hybrid meeting in Geneva (August 26-27, 2021)
Virtual Steering group meetings several during the last months in prep for virtual annual meeting in feb 2022

Road Accident Analysis
Road accident research and reconstruction; vehicle identification; tyre tracks examination; tyre examinations; driver identification; cause of vehicle fires
Chair: Florin Rositoru, NIFE - Bucharest, Romania
<u>Activities:</u> A proficiency test has been performed based on analysis of a depressurized tire; Test Goals: experimental motion research and collision parameters of vehicles

Marks
Toolmarks Footwear, Erased Numbers, Locks and Keys, Physical Matches
Chair: Andrej Gerjevič , National Forensic Laboratory (NFL), Slovenia

Quality and Competence (QCC)

The Quality and Competence Standing Committee (QCC) acts as an advisor and coordinator to relevant ENFSI entities on matters of quality and competence in a broad sense. The QCC supports the ENFSI Members to comply with international standards and best practices including achieving and maintaining accreditation. The QCC also supports ENFSI-run projects such as the monopoly projects and this year has been active in the AFORE projects. In order to carry out its role, the QCC continues to engage with expert working groups, the board, quality representatives from the ENFSI community and European Accreditation (EA), International Laboratory Accreditation Cooperation (ILAC) and European Committee for Standardization (CEN) via its liaison capacity.

QCC activities undertaken in 2021

Annual Meeting

QCC cancelled its scheduled annual Quality and Competence Liaison Group (QCLG) meeting in Oct 2020 due to the COVID19 pandemic. However, in 2021 QCC organised a virtual QCLG webinar which covered the following topics:

- Updates on ENFSI's strategic goals, ENFSI PT guideline, TC 272, EA and ILAC activities, ENFSI document publication process, progress with Measurement uncertainty document
- 2021 ENFSI Survey results
- Practical approach to organising PT in Explosive EWG
- Flexible scope discussion
- Impact of COVID pandemic on quality management discussion.

The attendance level at the 2021 QCLG was more than in previous years and the number of registrations did not reflect the number of attendees as in many instances, there was one registration for an institute but several people in attendance. Table 1 shows the trend of attendance over the past years. QCC has started planning the QCLG 2022 which will be held along EAFS 2022 in Stockholm.

QCLG	2015	2016	2017	2018	2019	2020	2021
No of participants	48	39	49	56	60		64
Countries	22	25	27	27	27		29
Laboratories	28	32	35	41	49	Meeting cancelled due to COVID19 pandemic	48
Expert Working Group Representative	-	-	8	11	11		8
Accreditation body	0	0	1	0	0		0

Table 1: attendance level at annual QCLG meetings

Facilitate the establishment and sharing of ENFSI technical documents

QCC assures the quality of all Best Practice Manuals (BPMs) and guidelines prior to final publication on the ENFSI website. During 2021-2022, QCC has also been reviewing some of its own documents which have been due for a review. In addition, the QCC is leading on the complete rewrite of the Measurement of uncertainty document along with members of QCLG, statisticians and academics. The document is planned to be available for consultation later this year.

ENFSI Survey

During 2021, QCC organised a survey on behalf of ENFSI. Out of the 73 ENFSI members from 39 countries, the response rate was 85% with 62 ENFSI members from 35 countries responding. The survey shows that all 62 ENFSI members who responded had ISO 17025 accreditation for some of their activities. There is a growing number of laboratories who are also accredited to ISO 17020 and further developmental work is ongoing in a significant number of institutes on ISO 17025 and ISO 17020 as shown in the Table 2.

Standards	Number of laboratories	[%]
ISO 17025	62	100
ISO 17020	15	24
ISO 9001	9	15
ISO 17043	1	2
ISO 15189	1	2
ISO 17065	1	2
Developing ISO 17025	20	32
Developing ISO 17020	16	26
Developing ISO 9001	2	3
Developing ISO 17024	1	2
Developing ISO 17065	1	2

Table 2: Number of laboratories accredited, certified and developing their systems



Screenshot of some of the participants of the QCLG 2021.

In order to assist with the accreditation process, QCC is working on maintaining a list of potential assessors so that if requested by ENFSI members, EWGs or accreditation bodies, QCC can arrange contacts. A first draft of this list has been put together from information obtained from the survey and there are potentially 226 assessors covering a range of expertise available. The list is not intended to be widely published due to confidentiality of names but will be maintained by QCC. Awareness of the availability of this list has been raised at the 2021 virtual QCLG and further awareness will continue.

Further work is ongoing within the QCC to analyse fully the information of the survey.

QCC members

In 2021, the QCC comprised of Jos Tóth (NFI, The Netherlands), Ayşegül Şahin (ATK, Turkey), Peter Chovan (Institute of Forensic Services, Slovak Republic), Alexandros Lazos (FSD, Greece), Gerald Pratsch (LKA, Germany), Sigita Jakimoviene (LPFSC, Lithuania) and Chanda Lowther-Harris (Chairperson, MPS, UK). The Board representative for the QCC is Dorijan Kerzan.

Research & Development (RDSC)

Organisation and membership

During 2021 no changes have occurred in the membership of the RDSC. The membership of the RDSC in 2021 remained therefore as follows:

Members of the Research and Development Standing Committee

Bart Nys
(Chairperson, NICC, Belgium)

Emil Hjalmarson
(member, NFC, Sweden)

Thomas Biermann
(member, BKA, Germany)

B. Martina McBride
(member, FSI, Ireland)

Tapani Reinikainen
(member, NBI, Finland)

Didier Meuwly
(member, NFI, Netherlands)

Stefan Becker*
(Board Liaison, BKA, Germany)

Chris Porter*
(Board Liaison, MET Police, United Kingdom)

Technology Transformation Watch and White Papers

As is described in the ENFSI Action Plan 2020-2021, the RDSC is the Task Owner and/or Participant in four specific Tasks, namely:

- Template for White Papers Definition (Action 1.1)
- Collection of White Papers (Action 1.2)
- Conceptual Design for the trend monitoring and compilation in Forensic Science (Action 1.3)
- Trends in Forensic Science recognition and analysis for the coming 3 and 9 years (Action 1.4)

During 2020, a template for White Papers was designed for all 17 Expert Working Groups and 2 Standing Committees. The Working Groups and Standing Committees were asked to review and update all White Papers concerning their disciplines and a total of 19 WPs were produced. In order to follow up on the trends in Forensic Science, a first 'Trends Engine' was developed in the form of an Excel sheet in which the Needs, Solutions and Constraints in each of the ENFSI domains can be compiled and statistical analyses performed. A total of 117 Requirements/Needs, 102 Solutions and 58 Constraints were thus identified, based on the collected White Paper information. The work on this Knowledge Base will continue in the coming years and in that way valuable data can be accumulated for use by the Board and other relevant stakeholders for future trend monitoring purposes.

Involvement in the organisation of the EAFS 2022 Conference

It should be noted that Emil Hjalmarson is heavily involved in the organisation of the conference, to be held in May 2022 in Stockholm. As the RDSC has also taken up the important responsibility for the organisation of this event, his work in the RDSC will be closely related to the EAFS organisation. In this, he and Christina Bertler-Edlund, Chairperson of EAFS 2022 Organising Committee, take on a large part of the work. Christina, while not a member of the RDSC, therefore regularly participated in the teleconferences of the RDSC.

All other members of the RDSC are members of the Scientific Committee, which will review the articles submitted for publication. The members of the RDSC regularly participated in preparatory meetings organised

by the Organising Committee. Prof. Didier Meuwly will coordinate the publication effort, as he did for the previous EAFS instances, collating all scientific papers into the EAFS 2022 abstract book. A special issue of a forensic journal will be devoted to articles submitted by EAFS 2022 presenters.

Involvement in the dialogues between ENFSI and the European Commission

Bart Nys continues to be the ENFSI representative at CERIS (formerly Community of Users) events (online). Bart Nys is a member of its Advisory Board. In 2021 a number of on-line meetings and workshops were organised covering topics such as Fight against Crime and Terrorism, Disaster Resilient Societies, Cybercrime, Radicalisation, Explosives and Artificial Intelligence in Security Applications.

Involvement in the Monopoly 2020 Project

The RDSC was asked by the Board to review the proposals for the new Monopoly Direct Grant 'MP2020'. Before that, a number of its members had been actively participating in the writing of BPMs and other sub-projects for this Monopoly bid. A total of 19 proposals were received and reviewed by the RDSC to confirm compliance with the criteria set out by ISF-P. A report was drafted and presented to the Board during its on-line meeting on February 22. Since then the proposal of ENFSI has been accepted by the EC for funding through a Direct Grant Action and renamed to 'CERTAIN-FORS'. Richard Gill is managing the roll-out of this project until his retirement as Monopoly Project Manager in 2022. He will be succeeded by Mr. Raimonds Apinis.

ENFSI awarded Golden Sign for Cooperation



It was at the beginning of 2020 when the Slovenian Police decided to celebrate ENFSI's 25th Birthday, by awarding its highest Police award, the Golden Sign for Cooperation. This event was meant to coincide with the celebration of 70 years of the National Forensic Laboratory. However the Covid-19 pandemic changed many lives and plans, including this one. Only this year (2021), after long months of lockdowns across Europe has the sign been able to be given at the celebration by the Director General of Slovenian Police Dr. Anton Olaj to the Slovenian permanent representative and Board member Dr. Dorijan Keržan.



ENFSI MEETS

ENFSI MEETS

Overview on Board Videoconferences

The Covid-19 pandemic had already challenged the ENFSI community in 2020, so last year we transferred our professional life into a virtual world entirely. We have learnt a lot and adapted very well, but we still miss the old-fashioned lively discussions during coffee breaks and dinners. Although the year started with moderate optimism and the Annual Meeting was planned as in person, unfortunately this didn't materialize. Nevertheless, the new 25th Board has been elected. Michael Bovens has ended his term as a Chairperson and Pinelopi Miniati has become the second woman to chair ENFSI. Furthermore, the community has voted for Christina Bertler Edlund to be the new Chairperson designate. Terms of Yalçın Büyük and Pavel Kolář also ended and Chris Porter and Aleksandar Ivanović were elected as new Board members. Alexandra André, Stefan Becker and Dorijan Keržan (treasurer) remained Board members.

ENFSI MEETS

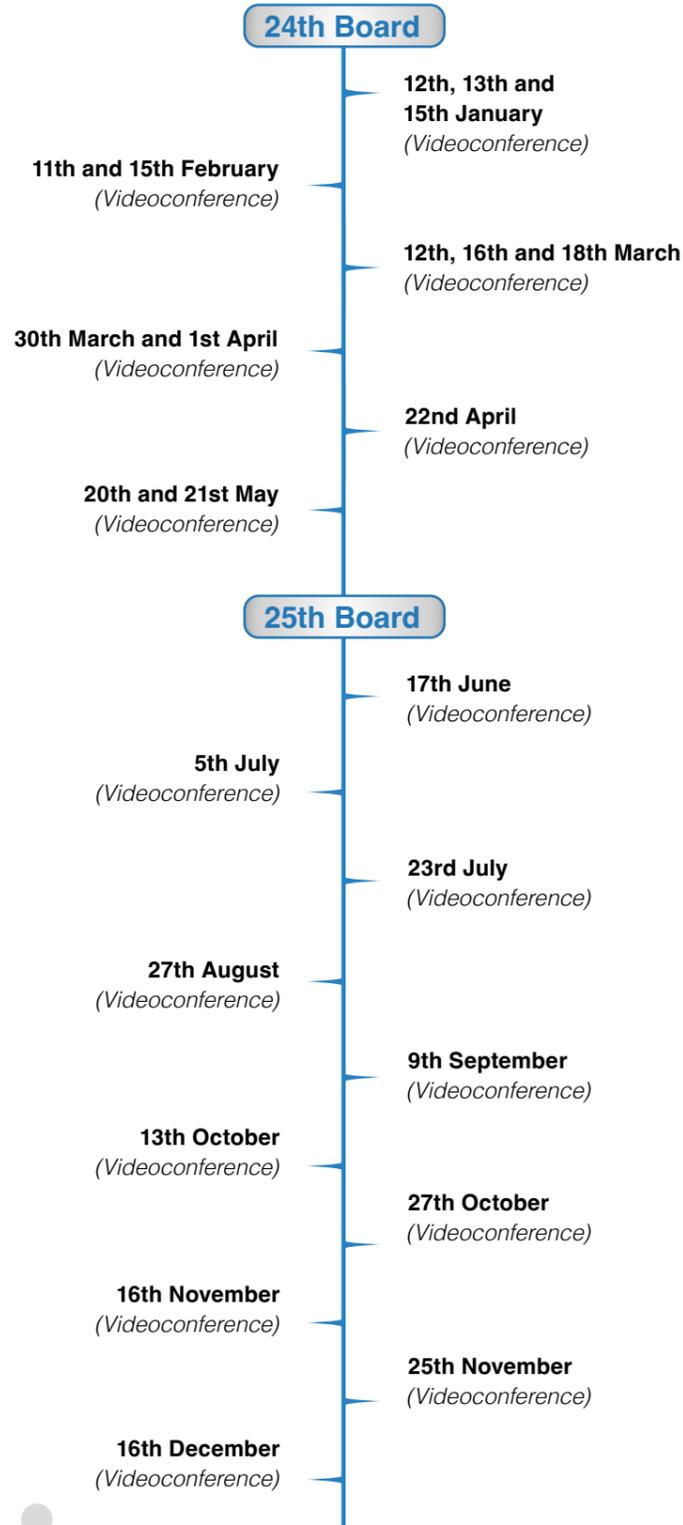
Experiences from 2020 helped in organizing and improving Board workstreams and particularly the Annual Meeting, for which Athens had been selected as host, and the Joint Meeting remained a challenge. Having a professional WebEx license has helped considerably and has been used by working groups as well. Some of the videoconferences were organized over several days due to limited availability of Board members.

Main issues and topics the Board has addressed in 2021 were:

- Further development of ENFSI Vision.
- Working on EFSA 2030 together with the representatives from three countries presiding EU Council in next 18 months (all of them experienced ENFSI participants, Dominique Saint Dizier, Pavel Kolář and Christina Bertler).
- Further cooperation with ENFSI stakeholders.
- Preparation and organization of the Annual Meeting, unfortunately yet again virtual, after canceling the in-person meeting in Athens
- Preparation of the virtual Joint Meeting.
- Organization of EAFS.
- Document management and revisions, including purchase of ISBN numbers for ENFSI products.
- Selection of new Direct Grant Manager.
- Extension of the AFORE project (for 12 months).
- Preparation together with team leaders of MP 2020, CERTAIN FORS (twelve Work packages) which has been granted.
- Executive summary of EWG White Papers and further development of Trends in Forensic Sciences.



2021



ENFSI MEETS

Membership Online Meeting



The Forensic Science Division (FSD Athens) of the Hellenic Police, had the honor to organize and virtually host the **33rd Annual Membership Meeting**.

The FSD Athens was nominated as the host of the AM2021 during the AM 2019 in Rome. Soon after, FSD's organizing team took over all the issues related to the organization of the most important ENFSI's annual event. The postponement of the in-person ENFSI's Annual Meeting 2020 and its final replacement by a virtual one due to the COVID pandemic, was not a good omen for the in-person organization of the 33rd Annual Membership Meeting.

In February 2021, FSD Athens together with the Board finally abandoned the initial planning for an in-person event. It was decided to have a one-day virtual meeting without a thematic day prior to the business meeting.

The choice of the virtual platform that would be used was of great importance and FSD's organizing team dedicated a lot of work hours to that. Many platforms were evaluated regarding not only their effectiveness and reliability, but also the extent of interaction among the participants that they could offer. The suitable online platform was finally chosen. ENFSI Secretariat sent to all participants the registration forms together with how-to instructions and the AM agenda.

The online meeting took place on May 27th, 2021. 83 participants, directors and delegates representing Forensic Institutes from 39 countries registered.

The Head of the FSD Athens and ENFSI's Chairperson designate (current ENFSI Chairperson) Dr. Pinelopi Miniati, opened the Annual Meeting with her welcome address, followed by the welcome speech of her predecessor in ENFSI chairmanship and ENFSI Chairperson during the AM 2021, Dr. Michael Bovens.



In 2021 three board positions became vacant (the position of the Chairperson designate and two regular Board member positions) and had to be filled accordingly. The internal elections of the association preceded the online meeting. Particularly positive was the fact that there were 4 interested parties who submitted themselves to the election process for the regular Board member position.

During the online meeting, Michael Bovens gave a summary on the outcome of the e-voting process and a friendly welcome to the new members of the next – ENFSI's 25th Board – Christina Bertler, Chris Porter and Aleksandar Ivanovic.

A traditional item on ENFSI's Annual Meeting agenda is the welcoming of new member institutes and new ENFSI Permanent Representatives. In 2021 ENFSI welcomed:

New ENFSI member institute

Ukrainian Scientific and Research Institute of Special equipment and Forensic Expertise of the Security Service of Ukraine (ISEE SSU), Andrii Svintsytkyi.

New ENFSI Permanent Representatives

- Antonio Alonso Alonso, National Institute of Toxicology and Forensic Science, Madrid, Spain
- Joern Kjer, Danish National Police Forensic Services, Copenhagen
- Marton Lontai, Hungarian Institute for Forensic Sciences, Budapest
- Daniela Robach, State Criminal Police Office Northrhine-Westfalia, Department of Forensic Science, Düsseldorf, Germany
- Nenad Vukanic, The National Forensic Center of the Ministry of Interior of the Republic of Serbia

The Board used the online platform to provide the membership with an overview on activities within ENFSI such as ENFSI's White Papers, ENFSI Database & Hosting developments; ENFSI's stakeholder activities and the set-up of a new E&T Subcommittee Project Group.

Also, on the agenda were the annual report of ENFSI's standing committees, an overview of current EU projects, and a summary of preparations for EAFS 2022.

At the end of the event, the participants had the opportunity to gain clarity and exchange opinions within the framework of the Discussion & Question Platform.

The common consensus was that the Annual Online Meeting, despite its compressed form, was a successful event which effectively provided the membership with an overview of ENFSI's activities and achievements.



Joint Meeting



The Joint Meeting of the ENFSI Board, Expert Working Groups and Standing Committee Chairs took place virtually on 30th of November 2021. Due to the pandemic situation, an in-person meeting was not planned, as travel restrictions were too strict for that.

The meeting began early and with a welcome and setting of the agenda by ENFSI Chairperson Pinelopi Miniati with support of the new Chairperson designate Christina Bertler who presented the review of the ENFSI Online Meeting (General Assembly of ENFSI). Pinelopi Miniati also presented the Board Report 2020/21 and Action Plan for 2021/22.

One of the main activities of ENFSI in the last year has been the development of the ENFSI Vision 2030 working together with representatives of countries that will preside in the next year and a half. It has been hard work, however with exceptional results. ENFSI's Vision is now considered to be the key document for ENFSI's future development. Another important topic has been the organisation of the European Academy of Forensic Sciences, which due to the pandemic, has been postponed to 2022. The involvement of EWGs has been discussed at length. Chairperson designate Christina Bertler presented both topics.

Irene Breum Mueller's (Chair of the ENFSI Drugs Working group) presentation of the UNODC Forensic Science Symposium was exceptional and very warmly welcomed by the participants.

Stefan Becker and Alexandra Andre prepared a summary of reports and planning work of the ENFSI Expert Working Groups, while Standing Committee reports were presented by their respective Chairs.

Among other themes: establishment of the Education & Training subcommittee was discussed; as well as revised ENFSI documents; public review processes and templates for documents. Progress of White Papers and some clarifications were provided by Chris Porter. Our Treasurer, Dorijan Kerzan, gave a short presentation on ENFSI Finances.

Richard Gill introduced his successor, new Direct Grant Programme Manager Raimonds Apinis. A short report on AFORE project (EU Direct Grant 2018), which has been prolonged for 12 months due to Covid 19 pandemics, was given by Richard Gill and both Direct Grant Programme Managers presented on the CERTAIN FORS project (EU Direct Grant 2020).

At the end of the meeting a questions and answers session took place, with questions submitted prior to the meeting and via chat. Some of the questions were already answered in Board presentations, while others were commented by the attendees. The themes of the questions were financial, proficiency testing and ENFSI documents.

While the overall feedback for the virtual Joint Meeting was good, it is commonly hoped that the next one will be live with all the amenities, including coffee, sweets, dinners etc.

The 25th Board wishes to thank the ENFSI Secretariat for their excellent work and technical support in organizing the meeting.

KEY PROJECTS

KEY PROJECTS



EU Direct Grant Funding

DR. RICHARD GILL – ENFSI MONOPOLY PROGRAMME MANAGER



For the second consecutive year, the COVID-19 pandemic has had a major impact on the work activities of the ENFSI direct grant projects throughout 2021. European travel restrictions have mainly stopped the project teams from conducting face-to-face meetings, slowing the progress in many work areas despite all the best efforts of the teams to keep the projects moving forward. Of particular significance has been the necessity to postpone some key deliverables (e.g. face-to-face training events for groups across the forensic community). Nevertheless, it is a tribute to the ENFSI teams involved, that significant progress has continued to be made under such difficult circumstances. The challenging COVID-19 experience over the two years has stimulated the project teams to be creative and adopt new ways of working online.

The implementation of the STEFA Project (“Steps Towards a European Forensic Science Area”), funded from the EU ISF-Police 2016 direct grant, started on 1st January 2018 and was originally scheduled to last for 2-years. ENFSI needed to apply to the Commission for two extensions, first for 5-months to accommodate some technical difficulties in completing parts of the work plan and then for a further 7-months because of COVID-19 challenges. Thus, the work reached its final conclusion at the end of December 2020 with the final reporting work taking place in the first half of 2021. There were outputs and deliverables across many different forensic areas: data interpretation in forensic chemistry, training in fingerprint visualisation, benchmarking forensic laboratories, education and training for hair and fibre examination, next generation DNA databases, IT validation, multi-disciplinary collaborative exercises and various best practice manuals (soil trace comparison, digitally captured signatures/handwritten entries, and fingerprint visualisation at crime scenes).

Activities funded by the EU ISF-Police 2018 direct grant (AFORE Project – “Accreditation of Forensic Laboratories in Europe”) have experienced particular difficulties from the COVID-19 pandemic, leading to major disruption, because a significant part of the planned work involved face-to-face training and cooperation. The AFORE implementation

commenced on 1st January 2020 with travel restrictions starting to have an impact very soon after the Kick-Off event in Norway (12-14th February 2020). In general, these difficulties persisted throughout 2020, and then did not show any consistent resolution throughout the first half of 2021. This led to an ENFSI application to the Commission in the summer of 2021 asking for a 12-month extension to the overall implementation period. The extension was granted, and the AFORE work will now end on 31st December 2022. Several AFORE face-to-face training and dissemination events have been re-scheduled for the latter months of 2022 on the basis that the travel situation and the confidence of individuals to attend such events is likely to improve as the year progresses. The AFORE project area that has not been so badly affected is the writing of seven best practice manuals, because effective approaches to on-line working have been developed, thereby maintaining progress.

The end of 2020 saw an EU announcement that ENFSI had been allocated a direct grant from the 2020 ISF-Police work programme, up to €1,500,000 with an implementation period of 2-years. The invitation pointed towards four different activity areas: Fundamentals of Forensic Science, Emerging Tools for Crime Scene Investigation, Migration-Trafficking-Smuggling, and EFSA 2020 Actions. Following on from an ENFSI Board call to the ENFSI community for proposals to fulfil the aims of the invitation, a detailed grant application was submitted to the Commission on 22nd June 2021 with a project title of “Competency, Education, Research, Testing, Accreditation and Innovation in Forensic Science (CERTAIN-FORS)”. The application was formally accepted in July 2021 and the new grant agreement was eventually signed at the end of November 2021. CERTAIN-FORS covers diverse forensic topics, as reflected in its broad-ranging project title, with twelve separate work packages being delivered by people from 60 different organisations. The implementation began at the start of 2022, with an online Kick-Off meeting for the activity teams on 19th January 2022. It is hoped that a follow-up face-to-face Kick-Off event can be held in the late spring when the travel situation has started to improve.

KEY PROJECTS

On a personal note, this will be my final Direct Grant Manager summary for the ENFSI Annual Report, as I shall be retiring in the summer of 2022, having been engaged in ENFSI work from 2008. I want to pay tribute to the many people that I have worked with over that time – project team members, the various ENFSI Boards, Member Representatives, ENFSI Secretariat staff, and members of the working groups and standing committees. It has been a real privilege to work alongside such a large group of dedicated people, pushing ahead with enthusiasm to share forensic knowledge and helping to break down the barriers to international cooperation. It is very instructive to look back at the enormous progress that has been made since I led an ENFSI project team to review the state of forensic cooperation across Europe, leading to a 2008 report entitled “Study on Obstacles to Cooperation and Information-sharing among Forensic Science Laboratories and other Relevant Bodies of Different Member States and between these and Counterparts in Third Countries”. [What a ‘concise’ EU title that was for my very first piece of ENFSI work!] In addition, I am very lucky to have made so many good friends within the organisation over more than a decade. My retirement comes with the appointment of a new ENFSI Direct Grant Manager, Raimonds Apinis, who is located at the State Forensic Science Bureau in Riga, Latvia. I am very confident that the direct grant work is in safe hands and that the ENFSI community will provide him with the same support that I have always experienced. I wish ENFSI every success for the future as it continues to promote and develop European forensic science.

ENFSI Direct Grant 2018 (MP2018)

Direct Grant Projects (2018) – initial 2-year programme with 12 month extension, €1,497,387 grant awarded / ISF-Police funding

Programme Theme: “Accreditation of Forensic Laboratories in Europe (AFORE)”

Current Status: Work commenced on 1st January 2020 / Formal EC extension of the implementation period granted until 31st December 2022.

EU Reference: ISFP-2018-AG-IBA-ENFSI

Project Title	Project Leader
1 Work Package 1. Management & Administration.	ENFSI
2 Work Package 2. Accreditation Model for Crime Scene Investigation.	Katri Matveinen (NBIFL-Vantaa, FI)
3 Work Package 3. Training of Forensic Personnel in Accreditation Matters.	Christina Bertler Edlund (NFC-Linköping, SE)
4 Work Package 4. Training of Technical Assessors.	Wim Neuteboom (EFSI-Tallinn, EE)
5 Work Package 5. Development of New and Updated Best Practice Manuals (BPMs).	
7 <u>Best Practice Manuals</u> (* indicates New BPMs):	Dariusz Zuba (IFR-Krakow, PL)
* Digital Image Authentication Examination of Fibres Examination of Gunshot Residues (GSR) Handwriting Examination * Voice Comparison * Human Forensic DNA Profiling Examination of Glass	

KEY PROJECTS

ENFSI Direct Grant 2020 (MP2020)

Direct Grant Projects (2020) – 2-year programme, €1,496,085 grant awarded / ISF-Police funding

Programme Theme: “Competency, Education, Research, Testing, Accreditation and Innovation in Forensic Science (CERTAIN-FORS)”.

Current Status: Grant Agreement signed / Work commenced on 1st January 2022.

EU Reference: ISFP-2020-AG-IBA-ENFSI

Project Title	Project Leader
1 Work Package 1. Management & Administration.	ENFSI
2 Work Package 2. UNLOCK - fUNDamental fOREnsiC Knowledge	Didier Meuwly (NFI-The Hague, NL)
3 Work Package 3. Development of E Learning Concept Phase 2 - Evaluative Reporting and Interpretation, Textile Damage and Raman Spectroscopy Courses	Jan-Eric Grunwald (BLKA-Munich, DE)
4 Work Package 4. Training and competence assessment for Forensic Handwriting Experts	Dorijan Kerzan (NFL-Ljubljana, SI)
5 Work Package 5. Establishment of a Trace DNA Transfer Rate Repository & Bayes Net to Calculate LR	Ingo Bastisch (BKA-Wiesbaden, DE)
6 Work Package 6. App Analyses and Reference Database Solution	Abdul Boztas (NFI-The Hague, NL)
7 Work Package 7. Forensic Multilingual Voices Database	André Saraiva (FSL-Lisbon, PT)
8 Work Package 8. Development of a New PT on the Interpretation of GSR Findings according to ISO 17043 and ISO13528 Demands	Ludwig Niewoehner (BKA-Wiesbaden, DE)
9 Work Package 9. Multidisciplinary Proficiency Test and Collaborative Exercises in Forensics	Francesco Zampa (RaCIS-Rome, IT)
10 Work Package 10. Benchmarking of Proficiency Tests for the Fingerprint Domain	Andy Becue (ESC UNIL-Lausanne, CH)
11 Work Package 11. Fingerprint WG Best Practice Manual 2nd Edition	Aldo Mattei (RaCIS-Rome, IT)
12 Work Package 12. European Day - Dissemination Event	Christina Bertler Edlund (NFC-Linköping, SE)



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IFSA ACTIVITIES



As IFSA's (International Forensic Science Alliance) mission and activities may not be very well-known within our Network, this article aims to "re-introduce" IFSA to the ENFSI Community and present IFSA's 2021 activities.

ENFSI is one of IFSA's Member-Organizations since 2008. IFSA is a partnership between Regional Networks of Operational Forensic Laboratories aiming to create opportunities for strategic collaboration across the global forensic community. The world-wide coverage of the Alliance is reflected in the list of its participating networks:

- American Society of Crime Laboratory Directors (ASCLD)
- European Network of Forensic Science Institutes (ENFSI)
- National Institute of Forensic Science Australia New Zealand (NIFS ANZ)
- Academia Iberoamericana de Criminalística y Estudios Forenses (AICEF)
- Asian Forensic Sciences Network (AFSN)
- Southern Africa Regional Forensic Science Network (SARFS)

All the participating networks retain their sovereignty whilst they are actively involved in pursuing the Alliance's goals and objectives.

The presidency of IFSA rotates among its members. The current President is Linzi Wilson-Wilde from the National Institute of Forensic Science Australia New Zealand (NIFS ANZ). The participating networks are represented by their Chairs who meet in person or through videoconferences at least annually and on other occasions if there is a need to do so.

The milestones of IFSA's Activities within 2021 are the following:

✓ Update of IFSA's Corporate Statements

IFSA's Corporate Statements reflect its: "vision", "mission", "purpose", "goals and objectives" and "priorities".

Collaboration in forensic science for a safer world is IFSA's vision and its mission is to provide strategic leadership and create opportunities for collaboration across the global forensic science community.

Furthermore, IFSA's Corporate Statements include the Alliance's "Position Statements" in the following important aspects / themes for the forensic community world-wide:

- Quality Management
- Ethics and Objectivity
- Global Support
- Education, Training and Professional Development
- Leadership
- Research, Development and Innovation

The revised Corporate Statements and Terms of Reference were unanimously approved in June 2021.

✓ Development of IFSA's Research and Innovation Position Statement (R&I Position Statement)

The aim of the Position Statement is to provide leadership and promote research and innovation in areas which are critical for the forensic scientific support of judicial systems.

The R&I Position Statement consists of nine research and innovation focus areas. Several fundamental and applied research themes have been identified and included within each focus area.

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The valuable impact of the Position Statement is already visible. Forensic research in Europe has already been facilitated by IFSA's R&I Position Statement as approximately 35 million euros have been leveraged via Horizon Europe into forensic science field. The "Trends in Forensic Science" which is one of ENFSI's strategic planning instruments is based on IFSA R&I Position Statement.

✓ **Liaison between the Research and Innovation Representatives of IFSA Members and Strategic Partners**

Following the development of the R&I Position Statement, the Members and Strategic Partners of IFSA took the initiative to bring together their R&I Contact Persons.

The first videoconference among the R&I Contact Persons is scheduled to take place in February 2022 and will examine how ENFSI Board "utilized" IFSA's R&I Position Statement both for research and funding purposes.

✓ **Update of the Minimum Requirement Documents (MRDs) and development of new ones.**

The MRDs are IFSA documents which describe the minimum requirements for various forensic disciplines regarding the following crucial parameters:

1. Competence of Personnel
2. Equipment and Consumables
3. Collection, Analysis, Interpretation, Reporting
4. Procedures, Protocols, Validation
5. Quality Management

Within 2021, IFSA updated-version 2- the MRDs for Crime Scene Investigation, Forensic DNA Analysis and Seized Drug Analysis so as to reflect current practises which are

now available not only in English but also in other official Interpol languages (Spanish, French, Chinese, Russian, Arabic).

It is also worth mentioning that colleagues from the Russian Federal Centre of Forensic Science of Ministry of Justice volunteered to translate in Russian the updated versions of the above mentioned MRDs.

The MRDs for Digital & Multimedia Evidence, Questioned Documents and Latent Prints are currently in development and will be also uploaded to IFSA's website after being finalised. The competent ENFSI EWGs have already been asked to review them.

✓ **Survey for COVID-19 pandemic impact on forensics.**

The idea for the survey came up during IFSA's meetings within 2021. The survey is online and has been developed by Professor Niamh Nic Daéid and Dr Justice Tettey on behalf of IFSA. All IFSA Members were in favour of it and the survey is already launched. The ENFSI Secretariat has forwarded the link for the survey to all ENFSI Members along with all the necessary relevant information.

The results will be collected globally and the outcome of the survey will be shared with the forensic science practitioner community to help the field understand the impact of the pandemic and be better prepared for the future.

ENFSI's cooperation with its partners in IFSA and all the above-mentioned activities, underpin that IFSA is a successful alliance of Forensic Networks world-wide.

The opportunities for collaboration which are created within IFSA, facilitate the participating Networks to achieve their goals and forensics in general, to meet the emerging technological challenges and contribute to a safer world.

Further information for IFSA is available in the site: <https://www.ifsa-forensics.org/>

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CEPOL 77/2021: Forensic investigation in CBRN contaminated environment Course

The EU agency for law enforcement training (CEPOL) jointly with the European Network of Forensic Science Institutes (ENFSI), ran a Forensic Investigation Course in CBRN contaminated environment, between 13th and 17th of September 2021, in Portugal.

The course took place at the facilities of the Portuguese Institute of Criminal Police and Criminal Sciences of the Judiciary Police and was managed by the Portuguese Forensic Science Laboratory.

Twenty-nine experts from 17 European countries and from Europol participated in the course.

The course itself consisted of 32 hours of theoretical learning **through** lectures and practical exercises provided by Portuguese and International experts in the field. After the practical exercises, the participants were given time to present the reports of the work in the exercises, with round table discussions and opportunities for clarification where required. The international trainers came from ENFSI, INTERPOL, EUROPOL and French Gendarmerie.

The purpose of the course was:

1. To present the specifics of police activities (Criminal Investigators, Crime Scene Examiners, Forensic Specialists, CBRN Specialists who analyse CBRN samples in the laboratories, EOD/SWATT Teams and First Responders) in crime scene investigations with existence or possible existence of CBRN materials.
2. To emphasize the need of close and effective cooperation of all responding forces/personnel (first responders, intelligence officers, investigators, forensics, etc.).
3. To identify the new developments regarding best practices/equipment in the field of CBRN crime scene investigations for the documentation of the scene and collection of the traditional traces.

4. To accentuate the need of prioritization in CBRN crime scene investigations.
5. To acquire or improve the skills of responding personnel in the context of crime scene investigations with existence or possible existence of CBRN materials (prioritization, safety rules, sampling and items seizing, decontamination).
6. To enhance the cooperation of European countries in the fight against CBRN threats.

At the end, the learning outcomes achieved through the course were to:

1. Define the specifics of police/forensic activities in crime scene with occurrence or possible occurrence of CBRN materials.
2. Detect, verify and distinguish possible CBRN threats and adapt the crime scene investigation activities with regard to the specifics of the CBRN threat.
3. Record correctly the scene and all the collected traces.
4. Search, identify, select and collect with the correct procedures and methodology's, all the traditional traces existing at the scene (biological, fingerprints, footprints, etc.).

In conclusion, it was a very interesting course regarding the application of the best practices of the crime scene work in CBRN contaminated environments, and the relationship between the CSI Units and the Laboratories with the necessary expertise to undertake the identification of the CBRN agent/source involved whilst at the same time protecting the recovery of more traditional traces such as fingerprints and DNA, for further analysis.

ENFSI and EU Strategic Training Needs Assessment

ENFSI is recognised as the main forensic science organization in Europe. As such it has been approached by CEPOL Exchange, Research and Analysis Sector as one of the stakeholders in EU Strategic Training needs Assessment (EU-STNA). Other stakeholders are member states, DG Home, EMPACT groups and Justice and Home Affairs Agencies.

The EU-STNA project is an EU wide exercise which aims to answer the following questions:

- What are the strategic level training needs of law enforcement officials at the EU level?
- What training needs should be given priority?
- What is the estimated volume of LE training needed?

In June, expert consultations with representatives from stakeholders, including ENFSI representative Dorijan Keržan took place. It is worth noting, that ENFSI's initiatives were well received and included into the strategic needs at this level. Input of ENFSI Working Groups are highly appreciated.

The main ENFSI strategic proposals (excluding Forensic Informatics) for EU STNA:

- EU project funding.
- Standardised forensic vocabulary / terminology.
- Evaluating and reporting, standardisation of interpretation of forensic data, analysis, use of statistics, likelihood ratio, mainly focused to the subjective methods, i.e. handwriting, GSR, tool marks, fingerprints etc.
- Crime scene investigation for first responders and investigators, quality control of evidence collection (fire investigations, explosions, blood pattern analysis, body fluid analysis, on the spot use of forensic equipment, DNA kits, multispectral light sources - photographic results from them; luminal examinations; use of powder for fingerprint evidence and photography).

- Crime scene investigation for forensic experts (use of new forensic instruments).
- Cognitive biases, different types of biases. Document forensics - Practical training in the new fields of digital document examination, chip verification, analysis tools for the authenticity of chip integrity, upcoming trends of chip technologies as one security element in security documents. The workflow of document process in upcoming digital world. Verification of manipulations on digital documents and their verification.
- Face recognition, including data protection aspects.
- Fingerprinting (marks visualization; forensic photography and image enhancement; fingerprint comparison).
- DNA analysis, new sequencing technologies, DNA phenotyping, DNA mixture analysis and statistical interpretation.
- Evaluative reporting for contact traces, analysing the processes, DNA transfer, advanced kinship analysis.
- Disaster victim identification, CBRN, how to set up a new DVI unit.
- Multidisciplinary expertise of drugs samples - chemical analysis of drugs, fingerprints, and DNA and tool marks examination.
- Synthetic drugs – dismantling drug laboratories – crime scene, DNA and fingerprints.
- Sampling in general (illegal cultivation of cannabis/hemp – crime scene and drugs – for example).
- Real-world cases involve multiple evidence types (examples: a garment from which DNA, fibres, glass fragments and GSR require to be recovered and evaluated - Combined evaluation and interpretation).

Separately, training needs in forensic Information Technologies were discussed and following themes proposed:

- Cross-border access to e-evidence (existing training to be updated when the new regulation comes into force in 2023).
- Electronic evidence – securing, storing, presenting, exchanging.
- Deleted data.
- Awareness about latest technology, innovation (Face ID, etc.).
- Online gaming platforms.
- Seizing virtual currency and use in the evidential chain.
- Securing evidence of cyber-attacks.
- Strengthening the interconnection and knowledge exchange among EU judicial practitioners in the field of electronic evidence.
- Use of open source derived evidence in prosecutions.
- EU judicial authorities in the field of electronic evidence face challenges related mainly with the retrieval of data in a time-sensitive situation.
- Mobile forensics.

Common themes:

- Fundamental rights, basic courses, concepts; Data protection, basic courses, concepts, GDPR, how to use personal databases (face recognition, DNA, fingerprints).
- Big data analysis and AI (Artificial intelligence and its use in forensics should be provided to traditional forensics as well).
- Cooperation with international partners.
- 3D laser scanning of the crime scene and data collection methods for the measurability of objects in 2D video and image files.
- Virtual reality in the crime scene documenting and presenting the findings in court.

Implementation of the strategic training needs is foreseen from 2022 to 2025 based on the CEPOL assessment and availability of trainers.

UNODC Forensic Science Symposium

Justice Terrey, Chief of the Laboratory and Scientific Service, Division for Policy Analysis and Public Affairs, United Nations Office on Drugs and Crime (UNODC) approached the Drugs Working Group (DWG). He wanted the DWG to participate in a joint UNODC, US-DEA and ENFSI DWG Forensic Science Symposium. The aim, in collaboration with the ENFSI, US-DEA and the European and North American segments of the UNODC, was to have the first in a series of online symposia for forensic laboratories, to explore scientific solutions in current challenges in international drug control and provide a platform for timely sharing experiences.

The UNODC hosted the meeting in WebEx.

Background

In recent years, the international community has faced challenges in defining the scope of control of cannabis and cannabis products; the increase in clandestine manufacture of methamphetamine worldwide with the associated phenomenon of diversification of chemical precursors; and the identification of new psychoactive substances, a necessary first step in any law enforcement and health response. The design of effective policy responses at both national and international levels requires a scientific understanding of these challenges, and the enrichment of policy discussions with objective scientific data and information. For example, forensic science can assist in the monitoring of clandestine drug manufacture and the chemicals employed and hence serve as a valuable tool for regulatory authorities to identify new targets for precursor monitoring programs, or to alert to newly emerging drugs for scheduling.

The Laboratory and Scientific Service (LSS) of the United Nations Office on Drugs and Crime seeks to ensure that Member States and the international community have access to quality forensic science services and data in support of an effective evidence-based approach for international policy making, in both drug control and crime prevention. LSS currently works directly with over 300 national drug testing laboratories in 90 countries worldwide, to achieve this objective.

With an overall objective of increasing the use of science in drug policy discussions and decision making, both at national and international levels, the symposium series will specifically aim at:

- Increasing awareness of the forensic science community of emerging issues in drug control
- Fostering the sharing of scientific expertise globally in pursuit of evidence-based solutions to identified challenges

Format of meetings:

The primary audience for the first Science Symposium was the forensic science laboratory community (clandestine manufacture and seized drug analysis). The meeting was conducted in English and involved the participation of laboratories in Europe and North America. The symposium consisted of three separate sessions over a three-week period, with each session having a maximum duration of 3 hours. Meetings were of a closed-nature and required pre-registration of participants.

Topics, Speakers and Dates:

Session 1: Analysis of cannabis and cannabis products.

Date: 27th September, 2021, 13:00 – 16:00 CEST.



The scope of control of cannabis and cannabis resin, extracts and tinctures of cannabis, delta-9-THC, and tetrahydrocannabinols, including delta-9-THC has

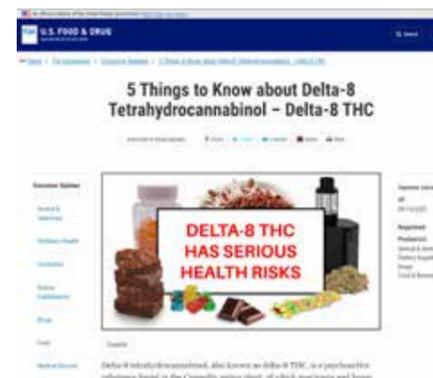
recently generated intense discussions worldwide. These considerations have coincided with an assessment by the Expert Committee on Drug Dependence of the World Health Organization that cannabidiol (CBD), a constituent of cannabis is not psychoactive, a decision of the Commission on Narcotic Drugs to delete cannabis and cannabis resin from schedule IV of the 1961 Convention, while retaining it in Schedule I.

Ongoing discussions and decisions on the scope of control of cannabis and cannabis products continue to highlight the importance of enhancing our understanding of a few concepts, some of which have direct impact on the analysis of these products. For example, what is 'hemp'? What are 'low THC' products? What does the limit of THC defined by certain jurisdictions or regulatory systems for hemp (i.e. 0.3% in the USA or 0.2% in some European countries) refer to? How do these thresholds translate to different finished products e.g. beverages, cigarettes, etc.?



Several questions arise from the forensic perspective: how well are forensic laboratories set up to quantify THC in products? Can current field tests available to law enforcement detect low levels of THC in CBD products and help address the

challenges with mislabeling of products? Can forensic laboratories differentiate between the isomers of THC e.g. delta-8 vs delta-9? What is limit of quantification of current analytical methods, how low do we need to go and what are reasonable cut-off values? What are the practical considerations in analysis e.g. sampling, product stability, and artefacts in enriched CBD products?



Other issues of scientific interest which have subsequently emerged are reports in Europe of the presence of synthetic cannabinoids in cannabis products and the presence of isomers of delta-9-THC in some CBD products, purportedly derived from hemp. There are also concerns that synthetic CBD (i.e. not derived from the plant) may also contain controlled cannabinoids.

The session provided an overview of the range and nature of cannabis and cannabis products emerging on markets in North America and Europe. The aim to improve understanding of basic concepts such as the definition of hemp, address the questions outlined above and expand on the associated analytical challenges to law enforcement, regulatory authorities and forensic scientists. The presentations covered current best practices in analysis of cannabis and cannabis products.

Session Chair – Justice Tetey, UNODC.

Speakers:

- Dr. Liesbeth Vandam, Head of sector - Support to policy - Public Health unit, European Monitoring Centre for Drugs and Drug Addiction, Portugal.
- Dr. Terrence Boos, Chief, Drug and Chemical Evaluation Section, Drug and Chemical Evaluation Section, US DEA, United States.
- Dr. Brian S. Rasmussen, Section of Forensic Chemistry, Denmark.
- Dr. Barry Logan, Senior Vice President of Forensic Sciences and Chief Scientist, NMS Laboratories, United States.

Session 2: Overcoming analytical challenges in the identifications of new psychoactive substances.

Date: 4th October 2021, 13:00 – 16:00 CEST:



The number of new psychoactive substances (NPS) has been increasing from less than 200 in 2009 to currently well over 1,000 distinct substances. The sheer number, their structural diversity and the continued emergence of new compounds represents unique challenges for drug analysis laboratories. As a consequence, the information requirements of the clients' laboratories serve have become

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more complex with analogue and generic definitions supplementing substance-specific drug control regulations at the national level. The United Nations have placed 68 NPS under international control since 2014 as well as a number of precursors and it is likely that the legal landscape will continue to evolve both at the national and international level. Thus, the identification and quantification where required as well as the determination of their control status by laboratories have become more challenging. At the same time, the identification of emerging and previously unknown NPS has put drug analysis laboratories in a unique position to be the first to know of potential drug-related threats.



Drug analysis laboratories have reacted to these challenges and opportunities in a variety of way. More and more are becoming part of early warning mechanisms and forensic networks geared towards exchanging information on emerging NPS and their identification quickly. Databases and methodologies for NPS identification have been developed and become indispensable tools for analysts.

The session discussed the analytical challenges in the identification of NPS and present responses developed and used by drug analysis laboratories in Europe and North America in support of implementing the international drug control decisions.

Session Chair: **Irene Breum Müller, ENFSI**

Speakers:

- Dr. Conor Crean, Scientific Affairs Officer, Laboratory and Scientific Service, UNODC.
- Richard Laing, Manager Strategic Research and Science Development, Drug Analysis Service, Health Canada.
- Emily D. Lockhart, Senior Forensic Chemist, DEA special Testing Laboratory, United States.
- Dr. Tamas Csesztregi, Hungarian Institute for Forensic Sciences, Hungary.
- Torsten Schönberger, Federal Criminal Police Office, Germany.

Session 3: Clandestine manufacture of methamphetamine.

Date: 12th October, 2021.



While the amount of methamphetamine seized increased threefold between 2011 and 2019, seizures of its internationally controlled precursors declined by 99 per cent over the same period. The internationally controlled precursor chemicals seized in 2011 would have been enough to manufacture 700 tons of the drug, seven times the amount of methamphetamine intercepted that year. By 2019, the amount of precursor chemicals seized had fallen to an equivalent of 10 tons of methamphetamine, whereas a much higher quantity of the drug, 325 tons, was seized. This dynamic is down to the agility of traffickers in changing the chemicals they use, to bypass interdiction. The capacity, know-how and versatility of traffickers in swapping the chemicals and tweaking their processes is challenging the capacity of Member States to control precursors.

Mexican Transnational Criminal Organizations present the greatest organizational threat to the United States as it relates to drug trafficking and are increasingly active in Europe. One of the most concerning developments in Europe has been the increase in methamphetamine production and trafficking in Europe with direct links to Mexican Transnational Criminal Organizations. In 2019, European authorities seized numerous shipments of crystal methamphetamine shipped from Mexico, mostly destined for the Netherlands, though similar activity has been reported in other European countries. In addition to the shipments from Mexico, Dutch and Belgian authorities have dismantled clandestine methamphetamine laboratories operated with the assistance of Mexican nationals.

Challenges arise regarding the use of precursors and pre-precursors and evolving production techniques, including the use of azobisisobutyronitrile (AIBN) to convert previously discarded byproduct of methamphetamine synthesis into a useable crystal methamphetamine product. Maintaining current information on the legal status of precursor chemicals in your country and source countries will allow chemists to predict possible emerging trends in the synthesis of methamphetamine.

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Safety of responders to clandestine laboratories is of utmost importance. It is imperative that chemists on scene have the most up to date information on chemicals utilized in the methamphetamine manufacturing process in order to safely handle and analyze these chemicals, as well as any waste byproducts. Methods should be in place to accurately detail newly identified synthesis methods/chemicals and share this information with colleagues in a timely manner.

Session Chair: **Chris Hull, US-DEA**

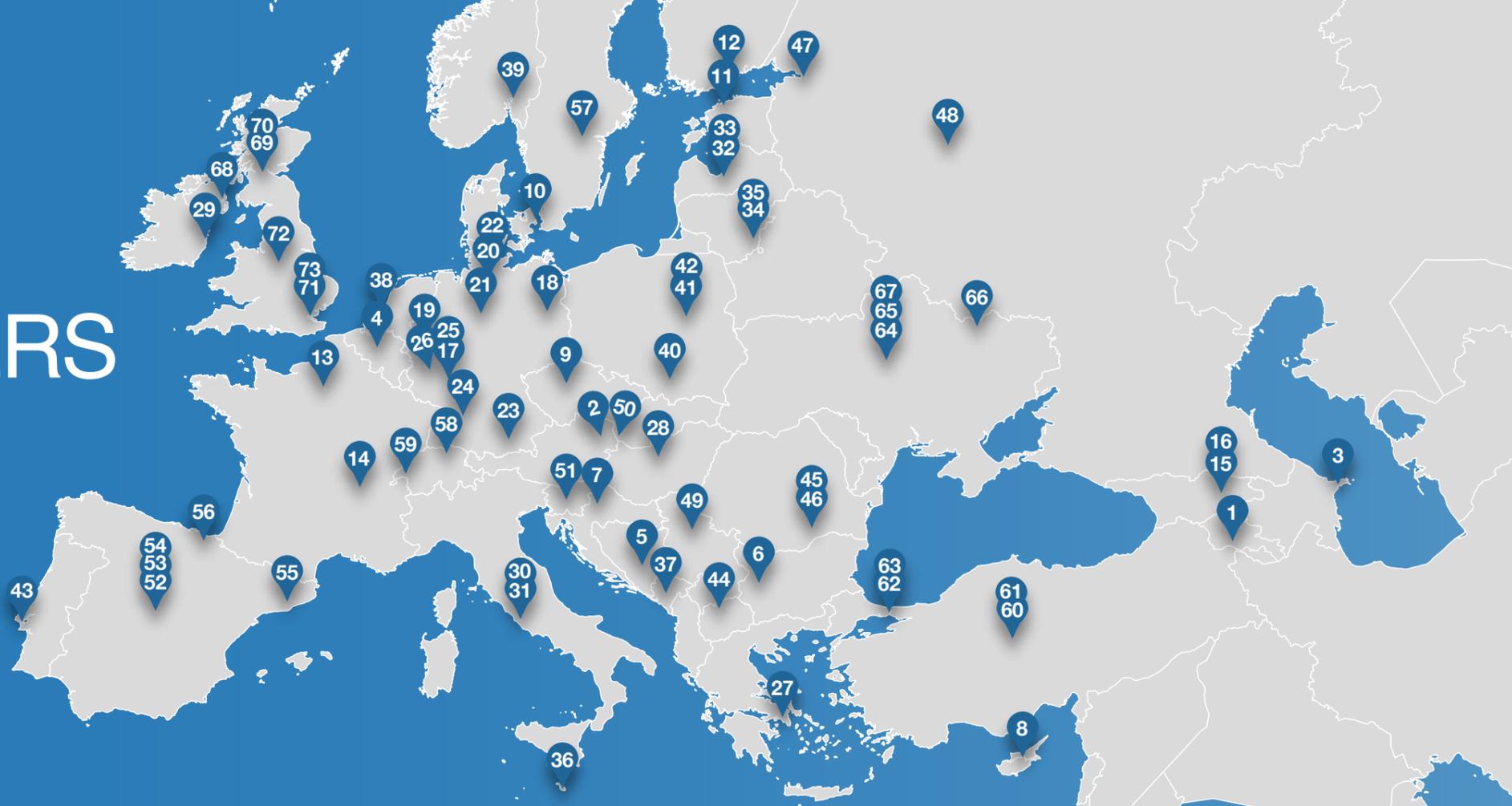
Speakers:

- Steve Kusko, Senior Forensic Chemist, DEA South Central Laboratory, US DEA, United States and Joseph Bozenko, Senior Research Forensic Chemist, DEA Special Testing Laboratory, US DEA, United States.
- Ward Van Helmond, Forensic Scientist-Illicit Drugs, Netherlands Forensic Institute, Netherlands and Raoul Plessius, Forensic Scientist-Illicit Drugs, Netherlands Forensic Institute, Netherlands.
- Dr. Apr. Natalie Meert, National Institute for Criminalistics and Criminology, Belgium.

The numbers of attendees for each session and unique attendees across all sessions, as well as the number of countries:

	DATE	THEME	CHAIR	REGISTERED	ATTENDEES	COUNTRIES
Session 1	27-09-2021	Analysis of cannabis and cannabis products	Justice Tettey (UNODC)	612 (91 countries)	479	79
Session 2	04-10-2021	Overcoming analytical challenges in the identification of new psychoactive substances	Irene Breum Müller (ENFSI)	650 (90 countries)	392	67
Session 3	12-10-2021	Clandestine manufacture of methamphetamine	Chris Hull (USA-DEA)	602 (87 countries)	362	69
ALL SESSIONS					629	83

ENFSI MEMBERS



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