EAB Newsletter

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Production:

This newsletter is issued by the European Association for Biometrics (EAB). Its content is contributed by the members of the EAB. If you feel an important news from your biometric sector or from your Region missing – do not hesitate to submit a news item to the secretariat before the next newsletter is issued (July 2017).

CONTENT

1. News from the EAB

EAB General Assembly

All EAB members are cordially invited to join the General Assembly of the EAB on 19th September 2017, where plans and activities for 2018-2019 will be presented and discussed. Your input is very important, as it will help us to make the right choices and decisions. The location of the GA will be at Fraunhofer in Darmstadt and is co-located with the EAB RPC conference. You can register here:

http://eab.org/events/program/138

The agenda will be announced soon.

Biometrics in Aviation

A seminar on 'Biometrics in Aviation' organized by the European Association for Biometrics in cooperation with IATA will be held on Monday 12 June in Lisbon. This seminar will familiarize you with biometric methods and applications in the aviation industry by providing guidance and new insights from a.o. IATA, ICAO, London Heathrow Airport and others on how biometrics can optimize key aspects of the passengers processing at airports. The following end-users have already confirmed their participation: Lufthansa, Ana Aeropuertos de Portugal, Interpol, United Airlines, Polish border HQ's, Iberia, Delta Airlines, IATA and others.

Read more: http://eab.org/events/program/144

EAB Research Projects Conference (EAB-RPC)

The 4th edition of the EAB Research Projects Conference will take place on the 18th and 19th of September 2017, at the premises of Fraunhofer IGD in Darmstadt, Germany. The conference is organized by the European Association for Biometrics (EAB) in cooperation with the Joint Research Center (DG-JRC) of the European Commission, through its Cyber and Digital Citizens' security Unit. The EAB-RPC 2017 will be co-located with the EAB Research Award and the IEEE BIOSIG Conference, later that same week.

This year's edition will include the participation of numerous EU-funded research projects, such as: ARIES, iCROSS, PYCSEL, AMBER, LIGHTest, ABC4EU, HECTOS, BODEGA, PROTECT, SWAN, INGRESS, FastPass or Tabula Rasa. Researchers from all over Europe will present the

advances achieved in these projects, provide updates on how results from finished projects are being currently used to improve biometric technology and eventually give an insight into the future of biometric research.

Read more: http://eab.org/events/program/122

EAB Research Projects Conference (EAB-RPC)

EAB is launching the tenth European Biometrics Research and Industry Awards. These prestigious awards are granted annually to individuals who have been judged by a panel of internationally respected experts to be making a significant contribution to the field of biometrics research in Europe.

Read more: http://eab.org/events/registration/124

2. EU/EC/EP

Frontex has launched a Call for their external Experts Database

There are two expertise areas: biometrics and operational research. On request of Frontex we are extending this invitation to apply as an expert.

You can access the application procedure here:

http://frontex.europa.eu/about-frontex/procurement/open-restricted-tender-procedures/

EU Commission seeks views on EU-US Privacy Shield compliance

To help it conduct the first annual review of the EU-US Privacy Shield, the EU Commission has issued a questionnaire to trade bodies and some other organisations in order to seek feedback on compliance issues. The annual review, to take place in September this year, will seek assurances on whether the key foundations of the Privacy Shield are respected. The Commission will also want to satisfy itself that the Privacy Shield certifications by companies follow the rules.

This questionnaire, sent to a select group of Privacy Shield-certified organisations seeks to find out what their experiences are so far. According to the Centre for Information Policy Leadership at Hunton & Williams LLP, the questionnaire addresses issues such as how these organisations have implemented policies, procedures and other measures to meet their Privacy Shield obligations and each of the Privacy Shield Principles; modified their business and contractual arrangements with third parties to ensure that the third parties appropriately protect the personal information they receive from Privacy Shield-certified organizations; addressed complaints and addressed the requirement to select an independent dispute resolution mechanism.

The Commission seeks responses by 5 July. On 3 July, Bruno Gencarelli, Head, International Data Transfers and Data Protection Unit at the European Commission will address Privacy Laws & Business 30th Anniversary International Conference on 'The EU Data Protection Regulation's influence in the wider world', and the following day his colleague Karolina Mojzesowicz, Deputy Head, Data Protection Unit, will speak and take questions on GDPR implementation within the European Union.

Read more: http://www.privacylaws.com/Emails/International-e-news/

European rights agency issues opinion on Eurodac revision

The European Union Agency for Fundamental Rights (FRA) published an opinion on the impact of proposed revisions to the Eurodac Regulation on children. European Parliament had requested the Agency's opinion on a series of changes as its scope changes in response to the region's illegal immigration crisis.

Eurodac is the European Dactyloscopy fingerprint database, set up to examine applications for international protection. It was originally established in 2000, and updated in 2013. The system is used by EU and Schengen zone member states to confirm asylum seekers claims, and by law enforcement agencies.

The 14 opinions provided by the agency apply to three main areas of change pertaining to fundamental rights, the agency states in the opinion. The three main areas of change involve the expanded purpose, and therefore application of Eurodac, the extension of the mandated duration of data retention and lowering of the minimum age for collection from 14 to 6 years old, and the collection of an expanded range of information, including facial images.

Read more: http://www.biometricupdate.com/201701/european-rights-agency-issues-opinion-on-eurodac-revision

European Parliament supports measure to fingerprint asylum seekers from age 6

The European Parliament's Civil Liberties Commission has supported a new measure that proposes to lower the fingerprinting age of asylum seekers from 14 to six, according to a report in New Europe.

The new measure, which is intended to facilitate children's reunification with parents, was part of a package of amendments to revamp the Eurodac fingerprint database. In total, the amendments were approved with 35 yes votes, 10 no votes and 8 abstentions.

The MEPs also approved several other measures, including recording unaccompanied minors who disappear from reception facilities in the Schengen Information System (SIS) and reporting them as missing persons, providing European police force Europol with direct access to the Eurodac database to prevent terrorist attacks and common crimes, and allowing the search and comparison of facial images and other personal data in the database, such as name and identity document number when the information becomes available.

The European People's Party (EPP) Group in the European Parliament said the new EU law addresses situations when member states at the frontline cannot record fingerprints due to the high population of migrants arriving.

Read more: http://www.biometricupdate.com/201706/european-parliament-supports-measure-to-fingerprint-asylum-seekers-from-age-6

3. Outside Europe

CBP rolls out biometric exit technology

U.S. Customs and Border Protection has deployed facial recognition biometric exit technology at Washington Dulles International Airport for one daily flight to Dubai.

The deployment builds upon the agency's June 2016 facial recognition pilot at Hartsfield-Jackson Atlanta International Airport. CBP plans to roll out future deployments of the technology at additional airports this summer.

"CBP has been working closely with airline and airport stakeholders to test biometric exit technology and as a result has developed a viable exit solution based on facial recognition," said Acting Commissioner Kevin McAleenan. "This process, now being deployed to Washington Dulles International Airport, enhances our security while continuing to facilitate legitimate travel."

Based on the flight manifest, CBP creates a flight specific photo gallery using images from the travel document the traveler submitted to the airline.

The agency then uses facial recognition technology to compare the live photo against the document photo in the gallery to ensure the person is the actual document holder.

If the photo captured at boarding is successfully matched to a U.S. passport, the traveler is automatically determined to be out of scope for biometric exit purposes and the photo is discarded after a brief period of time.

Read more: http://www.biometricupdate.com/201706/cbp-rolls-out-biometric-exit-technology-at-washington-dulles-international-airport

DHS Has Made Progress in Planning for a Biometric Air Exit System and Reporting Overstays, but Challenges Remain

CBP has made progress testing and evaluating biometric exit capabilities since 2013, but it is too early to assess whether current implementation plans address long standing challenges.

U.S. Government Accountability Office has released a report reviewing the Department of Homeland Security's (DHS) progress in developing a biometric exit capability at the country's air borders — its first report assessing the planning of the capability since 2013.

In compiling the report, GAO reviewed statutes and DHS documents as well as interviewed DHS officials about biometric exit capability development and overstays reporting.

The agency also reviewed four biometric entry and exit pilot programs and analyzed overstay data for the 2013 to 2015 period.

Since GAO's previous 2013 report, U.S. Customs and Border Protection (CBP) has conducted four pilot programs to inform the development and implementation of a biometric exit system.

Despite making progress in testing biometric exit capabilities, the agency continues to face several longstanding planning, infrastructure, and staffing challenges which are impacting its ability to develop and implement a biometric exit system.

Read more: http://www.biometricupdate.com/201703/dhs-making-progress-in-developing-biometric-exit-system-despite-challenges

Link to the report: http://www.gao.gov/assets/690/683036.pdf

4. Industry

Mastercard unveiles their next generation biometric card, featuring IDEX's flexible off-chip fingerprint sensor

Mastercard recently concluded two end-user trials in South Africa with Pick n Pay, a leading supermarket retailer, and Absa Bank, a subsidiary of Barclays Africa. The trials included employees from Pick n Pay and Absa Bank to test the potential ways convenience and security could contribute to the checkout process. The employees performed live transactions with the biometric cards using existing payment infrastructure, and the results were very positive.

In the coming months, additional trials will be conducted with the biometric card in Europe and in Asia Pacific. Following the trials, the card will undergo a final certification process and a full roll out is expected later in 2017.

Key technology partner of Mastercard is IDEX ASA, a Norwegian company that develops and sells advanced fingerprint sensor technology and products. IDEX is developing the market for biometric smartcards in a strategic partnership with Safran Security and Identity and Obertür Technologies.

Read more: https://idex.no/newsroom/2104198 https://idex.no/newsroom/2110084

5. Offerings

Doctoral position at Halmstad University, Sweden

Halmstad University (Sweden) invites applications for one 4 -years doctoral position in ocular biometrics, extendable to 5 years if the student involves in teaching and other duties (no more than 20%). We seek a highly motivated scientist with strong background in mathematics and signals and systems engineering. The research program is focused on ocular biometrics in unconstrained sensing environments. Our interests include (but are not limited to) ocular detection and segmentation, super-resolution enhancement, and feature extraction. More information on the position, and how to apply is available here:

http://islab.hh.se/mediawiki/images/9/94/2017_06_phd_announcement_Halmstad.pdf

6. Events

Calendar

Event	Where	When
Biometrics in Aviation	Lissboa	12.06.17
Security Document World	London, UK	26.06.17 – 28.06.17
EAB Research Projects Conference	Darmstadt, Germany	18.09.17 – 19.09.17
German TeleTrusT Biometrics Working Group	Darmstadt, Germany	20.09.17
EAB Biometrics Research and Industry Awards 2017	Darmstadt, Germany	20.09.17
16th International Conference of the Biometrics Special Interest Group	Darmstadt, Germany	20.09.17 – 22.09.17
International Joint Conference on Biometrics	Denver, CO, USA	01.10.17 – 04.10.17
Biometrics in Banking and Payments	London, UK	18.10.17
European Biometrics Symposium	Canterbury, UK	08.11.17
Biometrics in Banking and Payments	Amsterdam, the Netherlands	07.12.17

Security Document World – SDW'17, London, UK, 26-28 June 2017

SDW – now in its 11th year – is the world-leading event providing a global showcase for next-generation human identity solutions, focusing on intrinsic document security and on the new cutting-edge secure infrastructure now required to produce and use these advanced documents in live situations.

At the heart of the event is our exhibition – the biggest in the world for security documents. With over 140+ exhibitors and a visitor-ship from across the globe, SDW is the perfect meeting place for all attendees to exchange ideas and source solutions that meet their requirements.

Designed by the editors of the critically acclaimed Security Document World news and information portal, our conference programme is always packed with an international line-up of quality speakers who will deliver an imaginative programme on issues that are of real consequence.

Read more: http://www.sdwexpo.com/programme

EAB Research Projects Conference – EAB-RPC'17, Darmstadt, Germany, 18-19 September 2017

Biometrics and Identity Management are key research topics that are currently investigated in a number EU-projects running under the seventh Framework program and the new Horizon 2020. International research is dealing with innovative solutions for secure and privacy compliant biometrics and federated identity management.

The EAB, JRC and EU-projects in the field like FastPass, MobilePass, Eksistenz, PCAS, PIDaaS, ORIGINS, ABC4EU, HECTOS, BODEGA, OCTAVE, PROTECT, SpeechXRay and AMBER are jointly organizing a Research Project Conference (EAB-RPC), to present research results and in order to discuss the benefit of this research for our European society.

Read more: http://eab.org/events/program/122

German TeleTrusT Biometrics Working Group, Darmstadt, Germany, 20 September 2017

The working group is an open platform dedicated to regular exchange of information and experience related to the field of biometrics. The meeting is organized by German TeleTrusT Biometrics Working Group in cooperation with the European Association of Biometrics.

Read more: http://eab.org/events/program/123

EAB Biometrics Research and Industry Awards, Darmstadt, Germany, 20 September 2017

EAB is launching the tenth European Biometrics Research and Industry Awards. These prestigious awards are granted annually to individuals who have been judged by a panel of internationally respected experts to be making a significant contribution to the field of biometrics research in Europe.

Read more: http://eab.org/events/program/124

16th International Conference of the Biometrics Special Interest Group – BIOSIG'17, Darmstadt, Germany, 20-22 September 2017

Biometrics provides efficient and reliable solutions to recognize individuals. With increasing number of identity theft and miss-use incidents we do observe a significant fraud in e-commerce and thus growing interests on trustworthiness of person authentication. Nowadays we find biometric applications in areas like border control, national ID cards, e-banking, e-commerce, e-health etc. Large-scale applications such as the European Union SmartBorder Concept, the Visa Information System (VIS) and Unique Identification (UID) in India require high accuracy and also reliability, interoperability, scalability and usability. Many of these are joint requirements also for forensic applications.

Multimodal biometrics combined with fusion techniques can improve recognition performance. Efficient searching or in-dexing methods can accelerate identification efficiency. Addi-tionally, quality of captured biometric samples can strongly influence the performance. Moreover, mobile biometrics is an emerging area and biometrics based smartphones can support deployment and acceptance of biometric systems.

However, concerns about security and privacy cannot be neglected. The relevant techniques in the area of presentation attack detection (liveness detection) and template protection are about to supplement biometric systems, in order to improve fake resistance, prevent potential attacks such as cross matching, identity theft etc.

The BIOSIG 2017 conference addresses these issues and will present innovations and best practices that can be transferred into future applications. The conference is jointly organized by the Competence Center for Applied Security Technology (CAST), the German Federal Office for Information Security (BSI), the European Association for Biometrics (EAB), the ICT COST Action IC1106, the Joint Research Centre of the European Commission (JRC), the TeleTrusT-Association, the Norwegian Biometrics Laboratory (NBL), the Center for Research in Security and Privacy (CRISP), the Fraunhofer Institute for Computer Graphics Research IGD, IET Biometrics Journal and the special interest group BIOSIG of the Gesellschaft für Informatik e.V.

(GI). The conference will be technically co-sponsored by IEEE and papers will be added to IEEE Xplore.

Read more: http://www.biosig.de/biosig2017

International Joint Conference on Biometrics – IJCB'17, Denver, CO, USA, 1-4 October 2017

The International Joint Conference on Biometrics (IJCB 2017) combines two major biometrics research annual conferences, the Biometrics Theory, Applications and Systems (BTAS) conference and the International Conference on Biometrics (ICB). The blending of these two conferences in 2017 is through special agreement between the IEEE Biometrics Council and the IAPR TC-4, and presents an exciting event for the entire worldwide biometrics research community. This is the third such joint conference, following IJCB 2014 in Clearwater Florida and the first IJCB 2011 in Washington DC. This conference is a result of major worldwide consensus to join the two major biometrics meetings and to establish IJCB as a venue for presenting biometrics research results of highest quality.

Read more: http://www.ijcb2017.org

Biometrics in Banking and Payments in London, UK, 18th October

The seminar will reflect the trends and opportunities of biometrics in the financial market. It will be discussed how processes can be designed both convenient and privacy compliant. The speakers will provide you with their experience on how to best benefit of biometric technologies and solutions. Financial institutions get free entrance (lunch included).

The seminar presents a line-up of excellent international speakers, ranging from end users (who share their experiences with biometrics in their day to day applications) to experts who will bring you up to date with the state of the art in biometric technology advances. Speakers will focus on the underlying business cases and developments in mobile banking and financial transactions. They will share their experiences from a business perspective, touching important aspects such as process flows, added value, fraud reduction, implementation strategy and client experience.

Biometrics in Banking and payments will provide guidance on how biometrics can be used to optimize key aspects of the banking and payment processes, such as customer interaction, operational efficiency, fraud reduction and prevention. During the seminars we will reflect the many new opportunities arising from the gradual shift away from desktop/notebook computing towards smartphones, tablets and other portable devices, while sharing best practice of apps and web-based applications. You will learn about biometric solutions for in-branch and mobile environment and for internal and customer-facing usage. There will be

presentations about how biometrics support mega trends such as personalization and location independent services. It will also be discussed how biometrics can be embedded into front end and back end processes.

Read more: http://eab.org/events/program/142

European Biometrics Symposium, Canterbury, UK, 8th November

Organizer: European Association for Biometrics (EAB) together with AMBER ITN.

Read more: http://eab.org/events/program/145

Biometrics in Banking and Payments in Amsterdam, the Netherlands, 7th December

Biometrics in Banking and payments will provide guidance on how biometrics can be used to optimize key aspects of the banking and payment processes, such as customer interaction, operational efficiency, fraud reduction and prevention. During the seminars we will reflect the many new opportunities arising from the gradual shift away from desktop/notebook computing towards smartphones, tablets and other portable devices, while sharing best practice of apps and web-based applications. You will learn about biometric solutions for in-branch and mobile environment and for internal and customer-facing usage. There will be presentations about how biometrics support mega trends such as personalization and location independent services. It will also be discussed how biometrics can be embedded into front end and back end processes.

Read more: http://eab.org/events/program/143

7. Reports

Norwegian Biometrics Forum – May 2017

The spring edition of the Norwegian Biometrics Forum was organized on May 3rd at the National ID Center in Oslo. Participants were representing government agencies, industry and research organizations from Norway, Sweden and other non- Scandinavian countries. The Norwegian Biometrics Forum is an informal meeting place for presentation and discussion in the field of the use of biometrics. The following speakers presented their projects.

Simen Sommerfeldt (Bouvet) reported about the General Data Protection Regulation – GDPR and the required preparation steps to introduce processes that are compliant with the regulation. The transition period will allow one more year to shape service operators and their suppliers to adjust their operations.

Diane Friberg (Safran) talked about concepts for mobile biometrics solutions. These were academic ideas some years ago but are now evolving into products. She illustrated the benefits of biometric authentication through selfie-check in a FIDO-compliant manner. The digital solutions incorporate adaptive authentication for trusted paperless transactions. A key aspect is remote ID proofing to enable verifying an identity without meeting in person. This aspect has been incorporated in the "know your customer" (KYC) platform. The smartphone is linking with an ePassport via NFC, in order to verify the facial image captured with the smartphone against the reference image in the passport. Smartphone based solutions are focused on face capture and analysis but will also incorporate touchless fingerprint photos. The solution is integrated in the Dutch idensys program.

Martin Stokkenes (NTNU) presented his research on biometric template protection that shapes biometric solutions to be compliant with the General Data Protection Regulation (GDPR). He outlined how such protection mechanisms can be incorporated into transaction protocols. The Payment Services Directive (PSD2) requires strong customer authentication. The NTNU smartphone based solution operates on texture based feature extraction methods (BSIF) observed from the face and the left and right periocular region. Included in his work is a security analysis of the protection methodology including irreversibility and unlinkability measures and also an analysis of the recognition performance.

Pankaj Wasnik (NTNU) talked about Mobile Biometrics and Presentaton Attack Detection, which is specifically relevant for securing transaction in non-supversided biometric capture processes. He provided a good overview of anticipated presentation attacks with artefact eyes and 3D-masks. This work is respecting the reduced computational capabilities of the smartphone providing a very efficient solution, which is based on energy difference measure between attack presentation images and bona fide presentation images (a.k.a as „normal" images). The very light-weighted system was evaluated with various display attack and showing a cero precent Bona Fide Classification Error Rate (BPCER) at an Attack Presentation Classification Error Rate (APCER) of ten percent.

The pre-final talk was provided by Marianne Henriksen from the Norwegian Tax Administration. She provided an update on the population registry modernization project and informed about the status of the renovation work. The New Population Registry Act was approved by the Parliament in November 2016. The Tax administration took over the responsibility for the ID-control for d-numbers from January 2017. Immigration Authorities (UDI), have from January 2017 been able to request and issued d-numbers digitally. The need for a holistic approach required a cross-section analysis of population register, police requirement and the directorate of immigration (UDI) needs.

Zybelin Beck and Mads Odnes Jensen (NID) talked at the end of the day about big data and identity, a topic that is relevant for the work in immigration identity check. This work shall complement current manual checks on social media (e.g. facebook). Tagged faces play an important role for such applications. The talk touched also on the related challenges regarding privacy and data protection, grey zones regarding consent and open source intelligence.

More information and slides are available at:

http://eab.org/events/program/135

The next NBF meeting is scheduled for November 16th, 2017.

Norwegian Biometrics Laboratory Annual Workshop – February 2017

Norwegian Biometrics Laboratory (NBL) successfully organized the 7th annual workshop at the Norwegian University of Science and Technology (NTNU), Gjøvik, Norway. The Norwegian Biometrics Laboratory Annual Workshop-2017 was focused on the upcoming and interesting field of smartphone biometrics. Specifically, the workshop focused on opportunities and key challenges in adopting and using smartphone based biometrics. The workshop was technically sponsored by European Association for Biometrics (EAB) and financially supported by Research Council of Norway (RCN) under the project Secure Access Control Over Wide Area Network (SWAN).

The objective of NBLAW 2017 was to address all aspects of smartphone biometrics that will eventually establish robust methodologies from the perspective of software architecture of biometric system on smartphone to authentication of subjects in unconstrained capture environments via challenge response protocols. The workshop also resulted in identifying the key areas for the research which can possibly lead to a new EU-COST action focusing on smartphone biometrics.

The head of the section at NTNU, Dr. Nils Kalstad Svendsen welcomed the audience followed by Prof. Dr. Christoph Busch, who gave the overview and vision of NBL. Dr. Rolf Lindemann from NokNok Labs presented a key-note lecture on software architecture for establishing strong biometric system on smartphones and shed the light on standards of FIDO alliance.

Prof. Dr. Javier Ortega-Garcia presented the adoption of well-established signature verification in the context of smartphones. It was interesting for the audience to understand the challenges of verifying a subject by comparing the signature on mobile device against traditional signatures on paper. Prof. Patrizio Campisi took the opportunity to re-iterate the need for smartphone biometrics and presented the new project from European-Union - Smartphone based authentication - "enhAnced Mobile BiomEtRics" (AMBER).

Prof. Dr. Arun Ross presented a new paradigm of ocular biometrics to mitigate the challenges of face and iris biometrics on smartphone. His presentation also included a proposal for new eco-system to accommodate the upcoming field of smartphone biometrics. While, most of the discussions included interesting aspects of technology, Martin Stokkenes from NTNU presented methods to preserve the privacy of biometric which plays key role in the advent of the European General Data Protection Regulation (GDPR).

One can never convince the users to adopt the technology without demonstrating the usability and ergonomics. Prof. Luuk Spreeuwers demonstrated the applicability of face biometrics on smartphones while taking care of presentation attacks via simple challenge response interaction with users. Prof. Christoph Busch and Prof. Raymond Veldhuis contributed to the panel discussion extensively which resulted in identifying key areas for biometrics and possible directions for future EU-Cost Actions.

The NBLAW-2017 was attended by a large audience constituted by researchers and students from across Europe, industry peers and various governmental organizations including Norwegian Police department and immigration department.

For more information on NBLAW-2017, please visit:

http://nislab.no/biometrics_lab/nbl_workshop_17

http://www.eab.org/events/program/126

German TTT Biometrics Working Group Meeting on – December 2017

The winter meeting of the German Biometrics Working Group was hosted in Berlin by the Bunderverband deutscher Banken e.V. (https://bankenverband.de/) and took place on December 13th, 2016. The meeting with 58 participants featured numerous reports on biometric applications and most recent research results.

The event was introduced by Christoph Busch (Fraunhofer IGD), who presented the AG Biometrie. In addition, he announced several forthcoming events, including the IEEE BIOSIG conference (http://fg-biosig.gi.de/biosig-2017.html), and a Special Issue in Datenschutz und Datensicherheit (DuD) on biometrics.

Rolf Lindemann (Nok Nok Labs) reported on the NTT Docomo Project, which addresses the current problems related to data breaches and password theft. A combination of local biometric (e.g., iris or fingerprint) based and online public key cryptography based authentication is proposed within the project, building upon the FIDO protocol. The authentication process utilizes an open standard, thereby allowing the use of multiple servers and devices, and gives access to different services. In particular, since 2013 more than 213 certificates have been granted. It was noted that different levels of security can be achieved through attestation and that the W3C Standard is under development, in addition to the Extension User Verification Caching with EMVco.

Oliver Bausinger (German Bundesamt für Sicherheit in der Informationstechnik, BSI) presented the current BSI guidelines in the field of biometrics, described within the BSI-TR 03121 and already applied to the EasyPass and Visa applications, or the asylum request process. At the moment, live face images are acquired in addition to 10 rolled and 10 flat fingerprint images. Performance reports are based on DET curves, and quality measures are extracted following the NFIQ 2.0 and the ISO/IEC IS 19794-5 on face image data. On the other hand, future actions include the development of a faster procedure, generic profiles, PAD certifications following the Common Criteria and new protocols for the Smart Borders package (e.g., enrolment in kiosks and EES substituting current visas). Finally, the BSI-TR 03122 compliance requirements will be published at the beginning of 2017.

Timo Ruhland (German Bundeskriminalamt) described their experience with the NFIQ 2.0. The NFIQ 1.0 and 2.0 characteristics have been already extracted and manually compared for both slapped (> 340.000 images) and rolled (> 700.000 images) fingerprint images. For the former, NFIQ 2.0 values were lower than NFIQ 1.0, as it could be expected due to the existence of partial fingerprints. On the other hand, for the rolled images the NFIQ 2.0 values were higher, whereas NFIQ 2.0 values were lower for the thumbs due to the big amount of information available. It was also noted that the number of transactions is rapidly increasing, being already over 2 million. It is thus necessary to automatize the process, in compliance with the ISO/IEC 29794-4 on fingerprint sample quality.

Justus Heuzeveldt (WCC) reported on the fusion of biometric and biographical information. In particular, WCC has worked with identification based on biographical data since 1996. However, when no ID document is available, biometric information is mandatory. In addition, biographical information presents a number of challenges, such as different spellings (e.g., Bill vs William). For these reasons, the fusion of both identification strategies can be a more robust solution. To that end, they have developed a platform with different recognition algorithms and the possibility to implement de-duplication tasks or watch lists. Among their clients they

have highlighted the UNHCR refugees pilot in Malawi (17000+ people), border control (EU VIS since 2013 and the Finnish Police, ELISA) or employment agencies (Bundesagentur für Arbeit, where 2.6 million of unemployed persons within 20 million inhabitants were matched to 1.4 million jobs via fuzzy logic).

Michel Nerrant (CrossMatch) presented the bank authentication platform for the digital age, which covers the current necessity of protecting the company's identity and integrity in a world where everything is open and accessible. The flaw of the actual approach is that it ultimately relies on human nature. To avoid that, 2-FA and MFA have been proposed but failed in their aim. A new strategy, known as composite authentication, has been now presented: it is based on the right mix of factors, moment by moment. To that end, in addition to traditional tokens and biometric characteristics, other questions are taken into account: what you do, where you are, when you act. This approach offers a complete coverage, human-proof and rapid adaptability. It has been applied to digitalPersona banking, where a multi-credential ID is stored only after having passed the identity anti-fraud control. The information included within the ArcID comprises biometric and biographic information, ID documents, etc., and provides de-duplication through biometrics. It was finally noted that the server oriented architecture complies with the GDPR since only encrypted templates are stored (ISO/IEC 24745 on Biometric Template Protection) and the FIDO protocol can be followed for more privacy concerned companies.

Christian Noetzel (TÜV Informationstechnik GmbH) reported on the Common Criteria evaluation for biometric systems developed within the FP7 BEAT project. The main goal of the project was the development of a framework of standard operational evaluations for biometric testing, which is currently freely available through https://www.beat-eu.org/platform/. In particular, the WP6 was focused on standards and certifications following the Common Criteria. Appropriate system-, attacker- and attack-related metrics have been described within the Deliverable 6.5 (https://www.tuvit.de/en/downloads-1898.htm), which can be utilized as input for the Common Criteria and the ISO/IEC NP 19989 on Criteria and methodology for security evaluation of biometric systems. More specifically, the security target is defined as the sum of the functional description of the TOE (SFR) and the corresponding security aspects (SAR), and according to the 18045 / Certification Evaluation Methodology (CEM) 7 evaluation levels are defined. It was finally highlighted that a new work group for biometrics within Common Criteria has been created – see

https://www.commoncriteriaportal.org/communities/Bio.cfm

Norbert Jung (Hochschule Bonn-Rhein-Sieg) addressed the problem of Presentation Attack Detection (PAD) for face recognition, presenting a new algorithm based on Multispectral SWIR Imaging. The current state of the art tackles with still images or video replay attacks, making use of fingerprint sensors with skin detection (BSI Project "Lifefinger III") or using Cognitec sensors for PAD at eGates (easyPASS), which also integrates skin detection. However, those sensors face two different challenges, namely: i) different skin types, and ii) different lighting conditions. Those problems can be addressed using Shortwave Infrared cameras (SWIR, 900-1700 nm). In particular, they found that 4 different wavebands are robust to different skin

types. Their goal was then to use a multispectral camera for skin recognition, robust to motion and which allows acquisitions at different distances (1-3 m). Using Field-Sequential Waveband Capturing (FSWC) and motion compensation in combination with spectral signatures, a recognition accuracy over 99% was achieved. This recognition approach was later fused with PAD. For the validation experiments, both counterfeiting and disguise scenarios were considered, the Cognitec FaceVACS was used and a database with different materials was acquired. All attacks were detected for an operating point with FAR = 0% @ FRR < 5%.

Christian Holz (Microsoft) finally reported on biometrics and usability, regarding the trade-off between security and usability for user authentication. For instance, 2 FA with one time codes requires around 20 seconds, and probably for that reason it is only used in about 6.4% of the accounts. As an alternative, on-demand biometrics (e.g., through the fingerprint sensor already included in many smartphones) offer a reduced effort, are more convenient and decrease the fear of impersonation. Microsoft now proposes the Bodyprint, which includes 5 body parts (e.g., ears, knuckles or palmprint) acquired through the screen. A precision of 99.5% can be achieved for 26.8% FRR. or 86.1% for 0.2% FRR, being the best results achieved with the ears. On the other hand, continuous authentication with passwords also disrupts interaction, and it is now therefore proposed to use Integrate ID with touch events. For example, fingerprints can be acquired through the screen, and Fiberio provides authentication for each interaction. Finally, authentication can also be carried out with an additional device which measures the bioimpedance on the wrist and sends it to the touchscreen thanks to the capacitance of the body.

The day concluded with some updates from Christoph Busch (Fraunhofer IGD), who summarized the main activities of the TeleTrusT Biometrics workgroup and also referred to the publicly available Harmonized Biometric Vocabulary (ISO/IEC 2382-37), including a German translation (http://www.christoph-busch.de/standards.html).

Slides of the meeting are available at: http://eab.org/events/program/127

8. Impressum