

# DETAPP News

FIGURE 1: SCREENSHOT OF AN EVALUATION WITHIN THE ANALYSIS SOFTWARE MAXQDA

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## Things are moving forward!

by Dr Ursina Mögerle, Co-Project Manager

Since our last newsletter, we have moved the DETAPP («Detection of Terrorist Activities in the Predicate Phase») project forward into phases 2 and 3. But first a short review for all new readers: In phase 1, research question 1 «What is the baseline behaviour of staff security checkpoint users?» was answered. This involved a qualitative content analysis of CCTV recordings of various staff security checks to develop an indication of the baseline behaviour of staff security checkpoint users. For the qualitative content analysis of the video recordings, we entered new methodological territory. We received permission from Flughafen Zurich AG to export recordings from the airport's video system and process them for analysis. With the help of these video recordings, it was subsequently possible to observe and analyse the behaviour of the users of staff security checkpoints. An innovative method was also chosen for the coding and analysis of the CCTV recordings. Using the analysis software MAXQDA, which is widely used in empirical social research, the video recordings were played back using a multimedia browser and coded directly. In this way, each video sequence could be marked and assigned to an observed person. This made it possible to carry out case-based complex code configurations and to analyse, among other things, the common occurrence of codes (e.g. gender, clothing, number of pieces of luggage, non-verbal behaviour) on a segment (video sequence).

In the meantime, not only phase 1 but also phase 2 could be completed. In the second phase, based on the findings of the qualitative content analysis on baseline behaviour at staff security checkpoints, a level-appropriate training content was developed to train the members of a

test group of private security staff. For this purpose, a training concept was developed that incorporates previous findings from research on early offender detection as well as the results of the qualitative content analysis of CCTV recordings collected in this project. In addition, the findings from the guideline-based expert interviews with security staff in the context of Dirk Eichenauer's master's thesis at the Kalaidos University of Applied Sciences (see newsletter No. 2) were also included. In phase 2, the topic of «insider threat» plays an essential role in connection with the disclosure of information to members of the test group. It must be ensured that no sensitive information is disseminated. In order to ensure this, the developed training content was submitted to the FOCA («Federal Office of Civil Aviation») for approval before the training was conducted.

In the moment we are in the middle of phase 3, where an experiment is being conducted to find out whether security staff in the test group who have received specific training (= priming) on the subject subsequently display better search behaviour with regard to deviations from the analysed baseline behaviour than security staff without training. For the experiment, two groups of security employees of Custodio AG were formed (see fig. 2). In June 2022 (= time t1), all participants in both groups (A & B) were shown video recordings of situations at staff security checks. These were assessed in terms of which scenes depicted normal behaviour and which showed deviations from normal behaviour. In September 2022, the employees of the test or experimental group (= group A) will then be trained in connection with normal behaviour at staff security checks. The second group (= group B) acts as a control group and does not receive this training. It is planned that in October 2022 (= time t2) again all participants of both groups (A & B) will be shown exactly the same video recordings of situations at staff security checks as at t1.

These are to be assessed again in terms of which scenes depict normal behaviour and which show deviations from normal behaviour.

**Experimental design:**

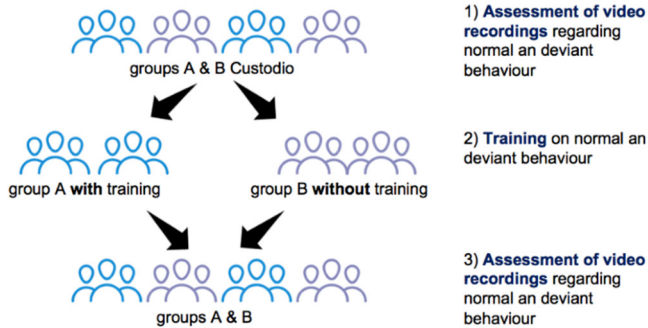


Figure 2: Experimental design in phase 3

The overall objective of the experiment is to determine scientifically whether specialised further training of private security personnel at Swiss airports can contribute to a better recognition of offender-specific behaviour of assassins in the predicate phase by security bodies. This could prevent the perpetration of an attack in the main phase. In order to answer this question and to conduct the experiment as described, a large amount of video material at staff security checkpoints is needed. For data protection reasons and due to the lack of scenes of deviant or potentially suspicious behaviour at real security checkpoints, CCTV footage could not be used for this purpose. Consequently, the required video footage was created during filming at a training staff security checkpoint line with the assistance of students from Kalaidos University of Applied Sciences (see fig. 3-5). The students acted as lay actors and performed various normal as well as deviating scenes at staff security checkpoints. In addition, they gained valuable insight into a current research project including research logic/design and questions during their studies. The scenes were filmed and saved using state-of-the-art video technology from three different camera perspectives (from the front, from the side and from behind).



Figure 3: Position of camera 1



Figure 4: Film scene with metal alarm

Finally, seventeen suitable scenes of normal and deviant behaviour were selected from all the video material created and edited into a video of about twenty minutes and prepared for the experimental measurements.



Figure 5: Film scene of a normal security check

The presentation of the video recordings of situations at staff security checkpoints and the empirical survey of the security staff's search behaviour with regard to deviations from the analysed normal behaviour is carried out exclusively digitally. In the form of online sessions (via Zoom, see fig. 6) with the experimenter, the participating security staff are asked to watch the video with a total of seventeen different scenes at staff security checkpoints and to assess them with regard to behaviour that deviates from the norm or is atypical. The experimenter instructs the participating security staff and accompanies them through the entire experimental sessions. The previous digital measurements including the pretest all went smoothly and proved to be a suitable survey method for the screening of the video recordings.



Figure 6: Zoom online session with a test person

As you can see, ladies and gentlemen, dear colleagues, a lot has already been done. Other important steps such as the implementation of the training and the second measurement of the search behaviour are still to come. Finally, the statements of the test subjects regarding behaviour deviating from the norm at both time points must be transcribed and evaluated with regard to answering the question of whether behaviour deviating from the norm is better recognised after the training than before. So it remains exciting and we will report on the results in the next newsletter. We thank you very much for your individual contribution and your interest in our research!

The DETAPP research project is of interest not only to the national but also to the international security industry. Consequently, the members of the Aviation Security Services Association – international (ASSA-i, see more about the ASSA-i in the following interview) are also recipients of the DETAPP newsletters and express interest in the results of this project. We would like to take the opportunity of this newsletter for a mutual exchange with the ASSA-i and are pleased that Catherine Piana, Director General of ASSA-i, has agreed to be interviewed.



Catherine Piana is the spokesperson for Private Security Services across Europe (since 2014) and for Aviation Security Services internationally since 2016.

Her priorities as the Director General of ASSA-i and CoESS, include Transport Security, Artificial Intelligence, Insider Threat, the protection of Critical Infrastructure as well as of public spaces.

Catherine coordinates the work on all these issues, and is active in the standardisation activities on behalf of the private security industry, as the Chair of CEN TC 439 «Private Security Services» and a member of ISO TC 292 «Protective Security».

A professional European lobbyist since 1990, Catherine has been in a European Association leadership role since 1997.

Academic titles and certificates: Masters in Translation English, French, Italian (ISTI, ULB BE), MBA (Falconbury, UK), Certificate in Counterterrorism (Leiden University, NL), Masters in Neurolinguistics (Institut Ressources, BE), Certified Trainer (Institut Ressources, BE). Speaks 6 European languages (FR, EN, IT, ES, NL, DE).

## ASSA-i – The voice for aviation security providers

### Interview with Mrs Catherine Piana, Director General of ASSA-i

The following interview was conducted by Ursina Mögerle.

Q (Ursina Mögerle): Dear Catherine, you are the Director General of ASSA-i («Aviation Security Services Association – international»). What exactly is ASSA-i and what are its main goals and visions?

A (Catherine Piana): *ASSA-i is an International Association that speaks and acts on behalf of private security providers active in aviation and airport security. It was created in 2002, in the aftermath of the 9/11 terrorist attacks, to be the single voice of private security providers and, as such, to promote high quality standards and professionalism in aviation security. Its vision is professional, efficient and seamless security services for individuals, luggage and cargo, so that people and goods can fly safely and securely. To this end, ASSA-i's members constantly seek to optimise security solutions, where both technology and people are selected and combined to provide high quality security. The context of this interview shows that this vision is not just a theoretical one.*

ASSA-i's 4 strategic goals are:

- *To **develop** the association to be **representative** of high quality and professional companies;*
- *To **represent and promote** ASSA-i and the industry it stands for, and **influence** decision-makers and stakeholders in setting rules and regulations that support the values promoted by ASSA-i: **quality, safety, compliance, trust**;*
- *To become the aviation security services' **Information / Expertise Center** by collecting and disseminating relevant information, facts and figures;*
- *To set the **highest quality standard** for the industry and promote it to both the ASSA-i Members and relevant stakeholders.*

Q: What are the biggest challenges that the ASSA-i has had to face in recent years?

A: *The first challenge, and one that we are continuously facing, was to increase ASSA-i's visibility and make it more proactive. To this end, we revamped the visual identity of the association, designing a new logo, creating a more professional brand and re-designing the website. A few months into my job at ASSA-i, the European Parliament was discussing a report on improving Aviation Security, which we commented in a position paper, highlighting the need to focus on quality, make better background checks, exchange relevant intelligence, and for Member States to cooperate in this matter. Six years down the road, these arguments are still completely valid. Some are now being addressed as a result of the post-Covid19 capacity crunch in airport staff. The Commission is now promoting better cooperation between Member States. Crises typically bring some discussions higher on the priority list and we need to use the momentum to get our points across. I think that today many stakeholders realise and express the fact that the human factor is key, and this goes together with the need to focus on quality of selection and training.*

Q: And what do you see as the biggest future challenges and does the ASSA-i already have plans to deal with them?

A: *The biggest challenge is digitalization and how we need to embrace it by preparing for it, understand what profiles and skills will be needed and create jobs and career paths that are attractive for potential employees. This challenge is emphasized by the Covid19 crisis, whereby it has become very hard to motivate people to come and work in airports, whether in security or in other jobs. Another difficulty is that Background Checks take too long in many countries and regions and, meanwhile, you may neither train let alone employ security staff until it's validated. The result is that people take other jobs and so the workforce deficit is not in any way solved.*

Q: How did you actually get this exciting job as Director General of ASSA-i?

A: *In short, by word of mouth – someone dropped my name to Marc Pissens while he was looking for an interim DG. I had set up my own consultancy, training and coaching company. Marc called me in July 2014. He was at that time the Chairman of both CoESS (the Confederation of European Security Services) and ASSA-i, and the Secretary General of both organisations had been on leave for about 4 months. He was looking for a part-time Interim Secretary General to jump in her shoes until she would come back. I had no idea about the job or the security business, but I had a great interview with Marc, who was (and still is) passionate about the business and the Associations. At the time I took the job for CoESS only, and Andrea Soenchen, who had already been working for ASSA-i for some time, managed the interim for ASSA-i. Two years after, when it was clear that the Secretary General would not come back, I became the Director General of both CoESS and ASSA-i. I am working about 75% of my time for CoESS and 25% for ASSA-i. There are synergies between both organisations and ASSA-i is a member of CoESS, obviously, so it made sense to designate a single person for both organisations.*

Q: Now we would like to talk about the DETAPP project. You only recently learned about the DETAPP project through Dr Herbert Höck. How do you personally assess the importance of such a project for the private security industry?

A: *I find it highly interesting, precisely because it assesses the training with a scientific approach. As a trainer myself, I think it's a fantastic approach, which allows to improve and adjust contents. Most of the time, training is developed by determining contents and number of hours but not focusing enough on outcomes. In this case, legislation does not really define what exactly should be covered under soft skills, such as acquiring and disseminating security culture, or being trained for behaviour detection. Having scientific measurement of the people before and after having been trained is a very useful tool.*

Q: One of the main goals of the DETAPP project is to provide specialised training for private security personnel based on scientific findings in the field of behavioural research. In your opinion, how great is the need for such training?

A: *The need will be ever increasing, as the automation and digitalization at airports will require that humans are used for what machines can't do, using interpersonal skills to engage with passengers, and intuition to detect anomalies in their behaviour. Of course, sensors exist as do smart cameras, and innovation will continue to introduce AI-powered equipment. In the end, however, you will still need humans for alarm resolution or to interpret what the machine may have detected.*

*Also, I think that the scientific evidence is a very good way of highlighting the seriousness and professionalism of such training.*

Q: The DETAPP project is a research project conducted by Custodio AG in cooperation with Kalaidos University of Applied Sciences. What do you think in general about private security companies acquiring knowledge in the field of aviation security themselves or in cooperation with universities?

A: *It's a very interesting approach, combining two ways of functioning. While businesses have a drive for efficiency and profit, and the need for quick results, universities and academics have different timelines and distance from the subjects. Knowledge is key to both, and the scientific world is extremely useful at gathering and organizing knowledge and information, which can then be transposed into the commercial world. In my CoESS position particularly, I have been networking with several universities across Europe and I'm slowly but surely setting up an academic network where researchers can meet each other and get in touch with the business world.*

Q: Are you aware of other similar private projects?

A: *Yes I do, but I have to give a bit of background first. I have a commercial activity on the side of ASSA-i and CoESS. In this context, I have set up an e-learning platform on Insider Threat with the project manager of the EU-funded project AITRAP (Aviation Insider Threat Recognition and Prevention), of which CoESS was a partner. This platform was available for free for 3 years and then was supposed to disappear. Because the project manager and I, as the coordinator, thought it was a big loss to let the e-learning go, we decided to take it over, update it and commercialise it under the brand Help2Protect. As you will see from the website, we have worked with an academic who is doing a PhD in Insider Threat, so that he would review our material, and that we would cooperate on this subject. Of course, the dimension of the project is not similar to what you are doing, but it highlights my mindset, namely that the more perspectives you have on a given subject, the better.*

Q: A basic problem for private security companies is that police research findings are rarely publicly accessible for confidentiality reasons. How do you experience the flow of information from the state to the private security service providers at the ASSA-i?

A: *Be it from ASSA-i or CoESS, the perspective is broadly the same across Europe: the information flow is most of the time one-directional only, i.e. from the private sector to the police. This is, in my view, a lost opportunity for the police and for the security continuum. Let's look at what happened when terrorists attacked Brussels Airport on 22 March 2016 at 08:00 AM CET. Private Security heard about this at the same time as the general public. One hour later the metro station in Maelbeek was attacked by a suicide bomber. Private security officers protecting buildings in the neighbourhood immediately started helping police officers, of course. But it would have been helpful for private security management to be informed through a hotline and made aware that they needed to look out for any suspicious behaviours taking place in exposed locations, such as the EU buildings and surroundings, the metro station Maelbeek being right in the middle of the EU HQ. Receiving a message whereby the EU quarters are on high alert after an incident does not break confidentiality but is an actionable piece of information that may save lives.*

*The exchange of protected or limited information can be made within a well-defined framework. NDAs can be used, Security Officers are licensed staff and their management may even have a security clearance. Furthermore, only need-to-know and actionable information should be given out, not the complete detail. And, finally, the organisation holding the information should make a quick risk assessment: do we incur more risks by sharing the information or by not sharing it?*

*Within CoESS, we are working on Public-Private Partnerships and the exchange of information is one of the areas that we are working on. For reference, we have set guidelines for PPPs and information exchange in Chapter 3 of our «[White Paper on the Security Continuum](#)» (link to download the document).*

Q: Another problem is the partial lack of acceptance of scientific findings in practice. Do you think anything has changed in the field of aviation security in recent years?

A: *I'm not sure I have enough distance after 6 years at ASSA-i to make a thorough assessment. However, I know that CASRA, for example, does a lot of research and is linked to the University of Zürich and that the aviation industry respects this type of research, even if it takes some time to transpose it into material that can be used by businesses. In areas that are not hard science, so to speak, such as soft skills, behavioural analysis and detection, insider threats, it is of high value. I recently attended the Behavioural Analysis 2022 conference at Northampton University, UK, which was attended by just the right mix: private security, police, and academia. We can all learn from each other and progress on these subjects on which nobody has complete and finite knowledge and understanding. This area is the perfect example of the need for constant learning*

*Another change is the focus on tasks that are no longer just mechanical, and involve soft skills, as mentioned above. This can make the private security officers' job much more interesting and appealing, in a time where we have real difficulties in attracting them to come (back) to the airport to work.*

*Digitalisation will definitely call for different profiles and mindset and emphasise even more the need for soft skills. It's all converging towards amplifying the human factor that we can't do without and will need more of in the future. I think we have the perfect storm and should use this to the advantage of our industry, to highlight its professionalism and added value.*

Q: Thank you very much for the exciting interview and your valuable input for the DETAPP project. We wish you continued success and fun in your work and look forward to further exchanges with you!

## DETAPP NEWS

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Publisher:	Swiss Center for Applied Security Research (SCAS) Jungholzstrasse 43   CH-8050 Zurich
Editor:	Dr Herbert Höck   herbert.hoeck@kalaidos-fh.ch