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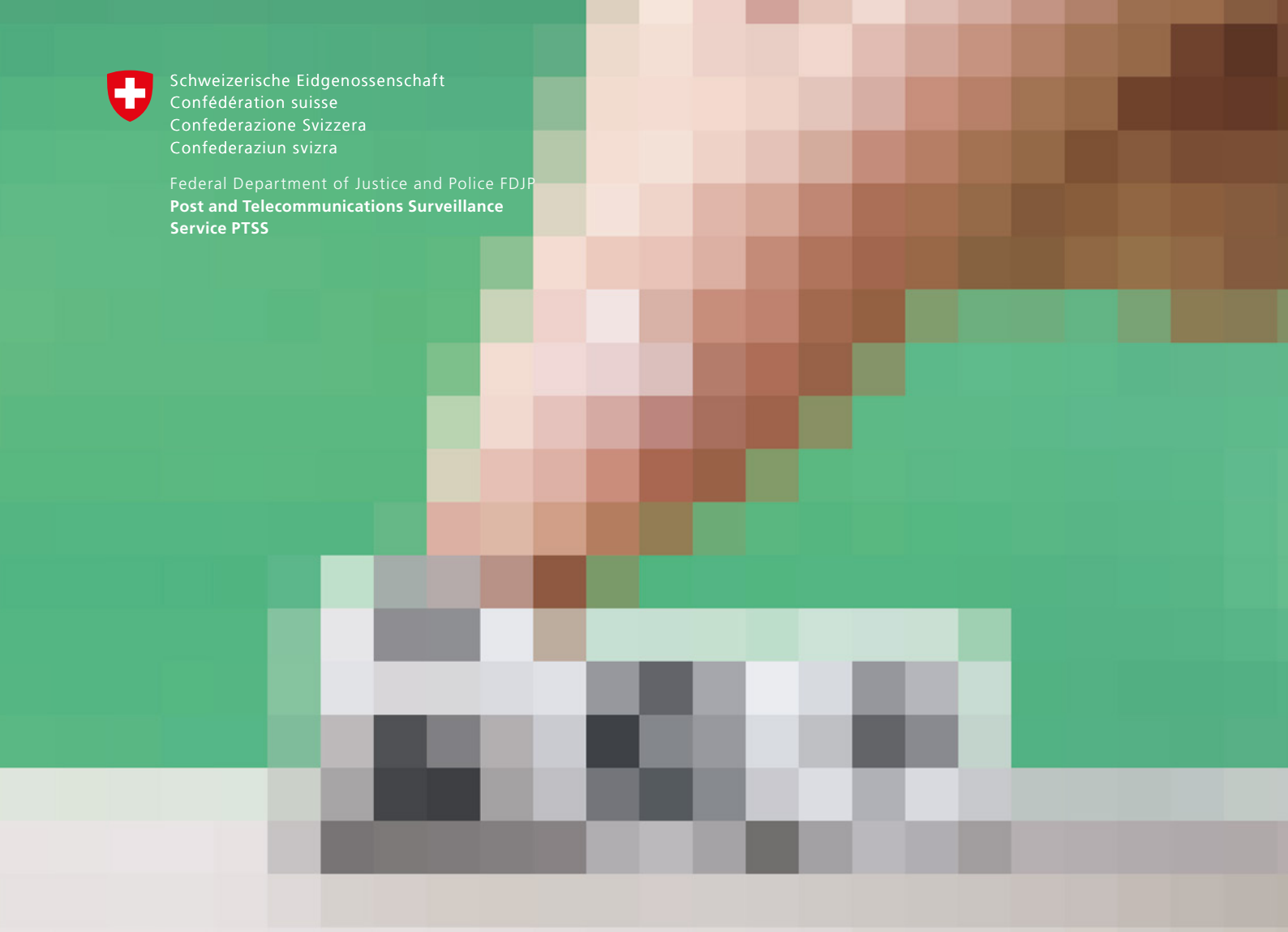
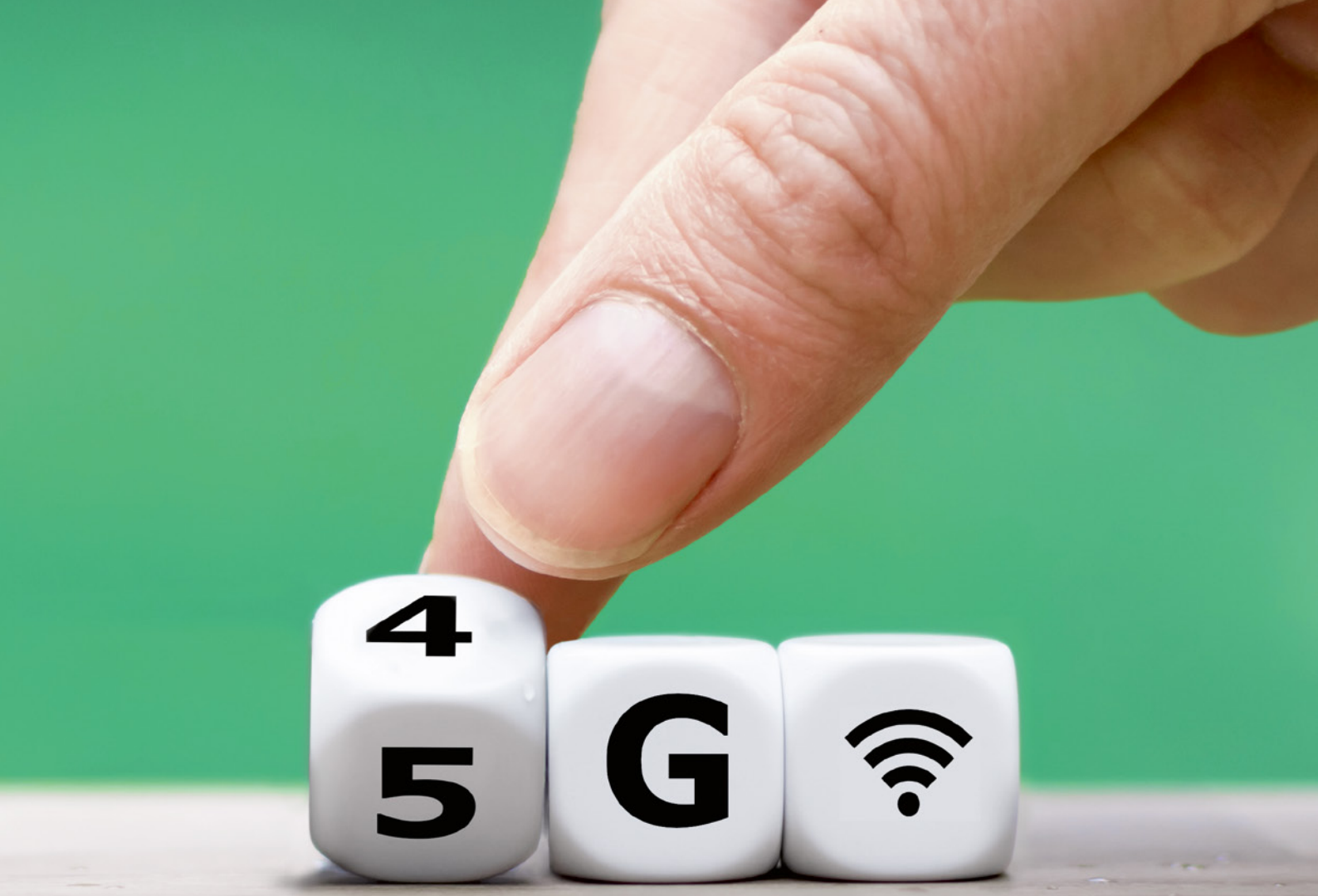
Federal Department of Justice and Police FDJP
Post and Telecommunications Surveillance
Service PTSS



Annual Report 2019 PTSS



Telecommunications surveillance must be viewed in its global context. English is the standard language used at international conferences, in international bodies and in the telecommunications industry itself. The English term Lawful Interception (LI) is now also widely used here in Switzerland. The Post and Telecommunications Surveillance Service adopted the use of the standard terminology in 2010. Since then, it has had its own website, at:

www.li.admin.ch

01 Overview

02 Background

03 Fact and figures

Dear reader,

Welcome to the second PTSS annual report. I believe I may say that our first report was a success. It appears that the role we play in Postal and Telecommunications Surveillance is of interest to many. But in the feedback we received, we were often asked why a service such as ours is actually necessary.

There is a quick and easy answer. Surveillance means encroaching on an individual's basic right to privacy, a right enshrined in the Swiss Federal Constitution. Based on this right, the law states that law enforcement services may only have access to data from telecommunications service providers (TSPs) if this has been previously requested through the PTSS. This intermediary function performed by the PTSS is an important aspect in ensuring security and quality, and is one that is greatly admired internationally.

In addition to the political answer there is also an administrative one. The PTSS in its current form was set up after the monopoly enjoyed by the state-run post and telecommunications service was dissolved. The Report on the Federal Act on the Surveillance of Post and Telecommunications in July 1998 refers to the creation of a "hub" between the new TSPs and law enforcement services.

The associated laws and ordinances set out in detail how information is to be gathered from private-sector providers and passed on to the authorities. When the law is changed, its technical implementation has to be modified accordingly; conversely, new technical developments often have an impact on the law.

"Nowadays I deal with all my correspondence on the train, travelling at 180 km/h between Bern and Zurich."

With this permanent work in progress, the PTSS is constantly confronted with often conflicting demands. The police, public prosecution authorities and Federal Intelligence Service all require access to suspects' telecommunications data as rapidly and comprehensively as possible. Meanwhile, the telecom industry points out that almost every additional demand regarding data availability and quality increases providers' staff and operational costs.

Furthermore, providers argue that giving too much ground to the needs of law enforcement delays the application of new technologies, with negative consequences for the economy and society, whose interest in seeing the introduction of innovative internet applications is great.

I remember climbing telephone masts and battling with alligator clips as a young telecoms technician. Nowadays I deal with all my correspondence or take part in telephone conferences on the train, travelling at 180km/h between Bern and Zurich. In addition, the nationwide fifth generation mobile network is in preparation.

You'll be thinking that 5G is the natural follow-on from 2G, 3G and 4G. This is so, but 5G will without question have a huge impact on all of our lives. It will not only bring new opportunities in telecommunications, with greater speed and greater security; it will make a veritable technical revolution possible.

The digital transformation of society – of this we can be sure – will intensify the existing divergences between the criminal justice system, technical progress and privacy rights. This poses a challenge for the PTSS: in our moderating role, my staff and I must find compromises and solutions to suit all the parties involved.

This is our mandate in the law. This annual report illustrates how we fulfil this mandate. I wish you an enlightening and stimulating read.

René Koch
Head of PTSS

01

OVERVIEW

Telecommunications service providers (TSPs) include mobile communications, telephone, email and internet providers such as Swisscom, Sunrise, Salt and UPC.

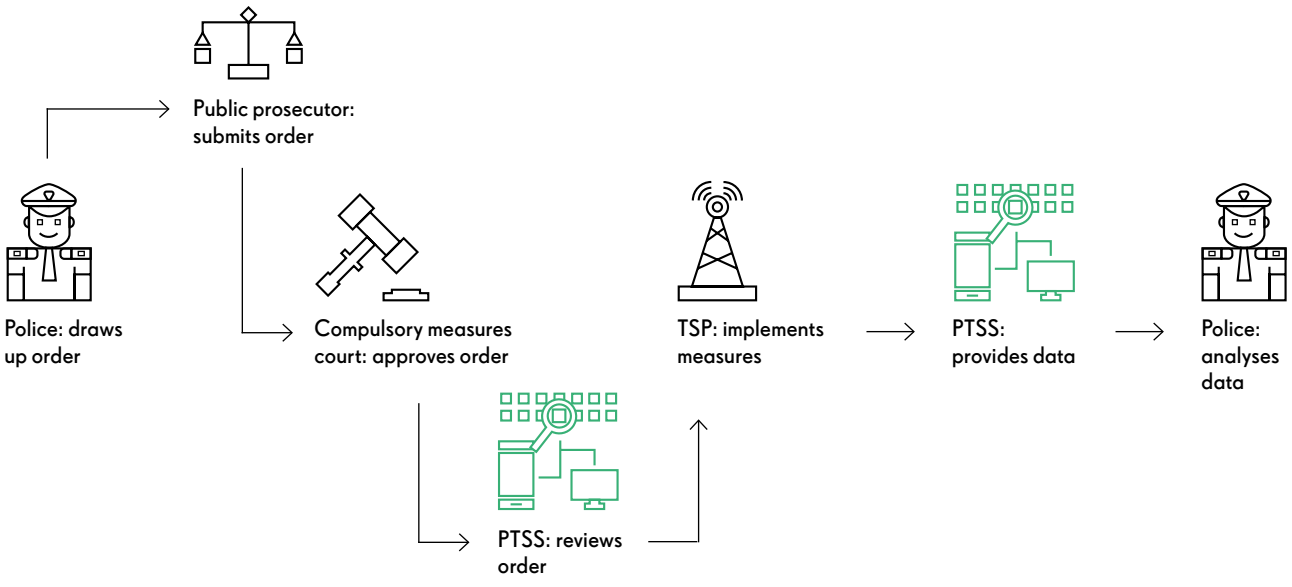
The PTSS: an overview

The federal and cantonal law enforcement authorities are able to order measures to monitor postal and telecommunications activity when investigating serious crime. Since 1 January 1998, the PTSS has been responsible for implementing such measures, ensuring that the applicable legislation is observed. The authorities make a request for data to the PTSS, which obtains the data from the TSPs; this is then passed on to investigators for analysis.

Neither crime nor modern telecommunications take account of geographical boundaries, so international cooperation plays an essential role in the fight against crime. The PTSS works to promote international standardisation and the exchange of knowledge and information with our counterparts abroad.

The PTSS is responsible for ensuring the implementation of post and telecommunications surveillance measures. It fulfils its tasks independently, autonomously, and not subject to instructions. It is affiliated for administrative purposes to the IT Service Centre of the Federal Department of Justice and Police (ISC-FDJP). The revised Federal Act on the Surveillance of Post and Telecommunications (SPTA) and the associated implementation ordinances gave the service a clear, up-to-date legal framework. It is now organised into four units.

The surveillance process



1

Legal Affairs and Controlling

Information and Communications Technology (ICT) is one of the most innovative sectors in the economy. It regularly introduces new standards, launching new services for increasingly powerful end-user devices. This has consequences for telecommunications surveillance; the technical interface between the PTSS's processing system and the several hundred TSPs needs to be constantly adapted.

The IT specialists and their colleagues in the Legal Affairs and Controlling division ensure that, even in a highly dynamic technological environment, it is always possible to conduct telecommunications surveillance. The division is responsible for planning and managing all IT projects critical to the PTSS's mandate.

In addition to its responsibility for IT projects, the team of 16 draws up the legal framework necessary to ensure that surveillance is correctly conducted. This safeguards the public's right to privacy and is a key requirement in ensuring the legal usability of the data gathered.

This largely involves adapting ordinances to reflect the latest technological changes. For example, each year, the team reviews the departmental ordinance on conducting surveillance in post and telecommunication services (VD-ÜPF), and amends it if necessary.

The Legal Affairs and Controlling division also deals with financial management, reporting and public relations. The staff answer scores of questions from the media each year and are available to respond to queries from the general public.

2

Provider Management

The 21 staff of the Provider Management division are responsible for creating and keeping up to date the technical specifications that the TSPs are required to observe when providing data to the PTSS.

They are also responsible for the compliance assessment procedure, in which the PTSS establishes whether the TSPs are able to monitor their telecommunication services and provide information and data as required. Under the SPTA, TSPs must at all times be able to monitor the services they offer and to provide the associated data and information, unless they legally obtained an exemption from the obligation to do so.

The Provider Management division's Special Case Team develops tailor-made solutions for TSPs that are not themselves able to implement surveillance measures or that are not legally required to do so. The team is involved when, for example, a small provider such as a local cable network or hotel is required to conduct surveillance activities.

The staff also advise providers on technical and legal matters, and issue corresponding orders and decisions within the scope of their supervisory authority.

A team of four is responsible for ensuring the smooth functioning of the applications of the data processing system from which the data is extracted.

Furthermore, the Provider Management experts help to develop new applications and are active on a number of national and international standardisation committees, for example for the development and implementation of interface specifications for 4G/5G networks.

3

Surveillance Management

The 18 members of the Surveillance Management division handle the PTSS's interaction with law enforcement services and the Federal Intelligence Service (FIS). The team advises the police forces and public prosecution services in all legal, technical, organisational and administrative matters relating to postal and telecommunications surveillance.

The staff deal with the surveillance orders, which they check for completeness before passing them on to the TSPs. The team also ensures that law enforcement services receive the data the TSPs subsequently deliver. Surveillance management also includes invoicing fees to the law enforcement services and the FIS, and paying indemnities to the TSPs.

Along with the IT operator, the team is responsible for incident and problem management regarding detected or suspected errors. It is involved in the development of new applications and provides internal and external first- and second-level support.

The Surveillance Management team also runs training sessions for law enforcement services and the FIS.

Outside office hours, it provides a duty service with the technical support of the Provider Management division. This means the PTSS is available around the clock.

4

Administrative Criminal Proceedings

The SPTA and the associated implementing ordinances give the PTSS additional tasks, one of which is to conduct administrative criminal proceedings. An independent "head of investigation for administrative criminal proceedings" has duties similar to that of a public prosecutor.

Since March 2018, the PTSS has had the authority to prosecute anyone failing to fulfil their legal obligations in connection with the surveillance of post and telecommunications.

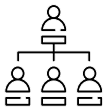
If there is a breach of the law in a criminal sense, the "mini public prosecution service" at the PTSS, a team of two, examines the facts of the case and may order and conduct compulsory measures such as seizure, searches and questioning.

When the investigation procedure is complete, the PTSS issues a penalty order or an order to dismiss the proceedings.

PTSS makes decisions that have come into force available to the public.

A look back at 2019

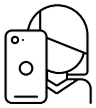
January



New head of the Federal Department of Justice and Police FDJP
As a newly elected federal councillor, Karin Keller-Sutter takes up the position of head of the FDJP on 1 January 2019.

Report on the Telecommunications Surveillance Programme*
On 9 January 2019 the Swiss Federal Audit Office (SFAO) publishes its second audit report on the Telecommunications Surveillance Programme. The objective of this ICT project is to adapt the PTSS processing centre systems and the Federal Office of Police (fedpol) information systems to the latest technical developments.

** The corresponding publications can be found on our website at www.li.admin.ch.*



Confirming identity via selfie-film
The Federal Act on the Surveillance of Post and Telecommunications (SPTA) prescribes that telecom services providers must retain a digital copy of the ID of customers purchasing mobile phone contracts and prepaid plans. The law allows companies to authenticate the ID online, without the need for the customer to get to a telecom shop in person. On 18 January 2019 the SRF radio broadcast "Espresso" discusses this issue.

Path cleared for the last stage of the Telecommunications Surveillance Programme
On 30 January 2019 the Federal Council approves the fourth and final funding instalment for the Telecommunications Surveillance Programme, known officially as the "Development and Operation of the Telecommunications Surveillance Processing System and of the Police Information Systems of the Swiss Confederation".

February

New secretary general of the Federal Department of Justice and Police FDJP
At its meeting on 13 February 2019, the Federal Council appoints Barbara Hübscher Schmuki as secretary general of the FDJP; she takes up office on 1 March 2019.

March

The SPTA is one year old
The new SPTA came into force in March 2018, providing a clear, up-to-date legal framework for the surveillance of postal services and telecommunications by the Swiss prosecution services and Federal Intelligence Service.

New system components for telecom surveillance in operation*
On 18 March 2019 the PTSS puts into operation two new processing systems components: WMC (order management) and IRC (information management). These tools enable the police and public prosecution services to submit orders and request surveillance measures electronically, while simple requests for information can now be answered rapidly and automatically online.

May

SFAO report on cost-effectiveness of telecom surveillance*
Transferring data to the PTSS systems incurs costs for TSPs. On 6 May 2019 the SFAO publishes a report on the cost-effectiveness of telecom surveillance for criminal prosecution purposes. This leads to several enquiries from the media.

Surveillance activities at previous year's level*
On 21 May 2019 the PTSS publishes its annual statistics: in 2018 the Swiss prosecution authorities ordered roughly the same number of surveillance measures as in the previous year.

Farewell to Rita Oberli
After 45 years working for the Federal Administration, Rita Oberli takes well-earned retirement. We thank Rita warmly for all the work she has done, most recently as invoice processor for the PTSS, and wish her all the very best for the future.

June

Consultation on fees ordinance*
At its meeting on 7 June 2019, the Federal Council launches the consultation procedure on the Ordinance on the fees and indemnities for the surveillance of post and telecommunications traffic. The aim of the proposed partial revision of the ordinance is to simplify the current system of fees and payments.

Third LI Day
On 12 June 2019 the third Lawful Interception Day (LI Day) is held in Bern. The event, a PTSS initiative, is the most important event for telecom surveillance in Switzerland. It attracts members of the Swiss law enforcement services, the Federal Intelligence Service and the country's telecommunications service providers.

July

"Tagesschau" reports on PTSS administrative criminal proceedings
In July 2019 the first PTSS newsletter is published on the administrative criminal proceedings it has carried out. *Tagesschau,* the Swiss broadcaster SRF's daily TV news programme, picks up on the topic and broadcasts a report entitled "Federal government fines vendors of prepaid cards for the first time".

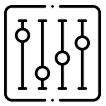
August

First ever PTSS annual report*
On 15 August 2019 the PTSS publishes an annual report for the first time in its history, presenting the service's activities and way of functioning to the general public. There is a broad and positive response.

September

Parliament and government address encryption technologies
The Federal Council responds to a parliamentary interpellation (19.4090) on messaging services encryption technologies, saying that it is aware of the risks messaging services pose for security and criminal justice, but that it does not wish to force companies such as WhatsApp to reveal all messages sent. The public and businesses all rely on efficient data protection technology. Furthermore, in cases provided by law, the authorities have some possibilities to get access to encrypted communications.

October



The PTSS Dashboard goes online
The PTSS Dashboard visually presents information from the PTSS test infrastructure, reports disruptions to the system environment and contains details of planned maintenance operations. It is launched with new functions on 21 October 2019.

December

Structural optimisation in the Federal Administration*
The consultation procedure on structural reforms in the Federal Administration, the principal aim of which is to optimise expenditure, closes on 13 December 2019. The reforms also affect the PTSS: the introduction of flat-rate payments will simplify surveillance funding processes and increase the PTSS's cost recovery ratio.

** The corresponding publications can be found on our website at www.li.admin.ch.*

02

BACKGROUND

Mobile internet moves up a gear

The introduction of the new 5G mobile telecommunications standard will create a whole range of new opportunities. This technological development will also have consequences for real-time telecommunications surveillance in cases of suspected criminal activity. The engineers and lawyers at the PTSS ensure that law enforcement services can continue to obtain from the surveillance data the important information they need to conduct investigations.

When we use mobile telecommunications networks, we reveal more about ourselves than we would perhaps wish. And it is this information that law enforcement services make use of when investigating serious crime.

For several decades now, real-time surveillance of telecommunications connections has been part of the arsenal of tools used by the police and prosecution services to investigate crime. This method is successful, but – much to the chagrin of law enforcement services – is becoming increasingly complicated. The reason for this is the decline of the good old landline telephone, with its clear point-to-point connection.

"Telecommunications are primarily internet-based," says Vinzenz Lauterburg from the Legal Affairs and Controlling division. Text messages, photos, emails, videos and calls are broken down into data packets before being sent, Lauterburg explains, and these find their own individual way to the destination address.

Smooth switch from one net to another

What is more, TSPs such as Swisscom, Salt and Sunrise maintain not one but three or four networks at the same time. A smartphone can flip from the 4G to the 3G network during the course of one call. "And now," says Lauterburg, "the innovative 5G network will make our work even more difficult."

In order to continue to be able to fulfil its legal mandate – conducting efficient and legally compliant surveillance – five years ago the PTSS launched the Telecommunications Surveillance Programme. The aim is to renew and expand the central processing system (see box on page 18). Currently the principal focus is on developing the new real-time Federal Lawful Interception Core Component (FLICC).

Time is short: the first 5G antennae are already mounted and the TSPs have declared their intention to update their core systems to 5G level from early 2021. In practice, this means retrofitting the infrastructure. Currently, 5G antennae are connected to the 4G core network; in the future, 5G end-to-end infrastructure will be needed.

For several decades now, real-time surveillance of telecommunications connections has been part of the arsenal of tools used by the police and prosecution authorities to investigate crime.

"Until now, real-time surveillance has been conducted on a monolithic platform," explains Lauterburg. This was set up as a single system in 2013. In order to meet the challenges facing us today and in future, the PTSS is looking at building up a modular system.

Requirements of law enforcement services

A range of workshops were held at which members of police forces and public prosecution services expressed over 150 features they would like to see from the new system (see interview on page 19). These range from zoom functions on the maps for localising mobile end devices to new data structures. The prosecution authorities would like to see data formats that are compatible with their investigation systems without the need for manual processing.

In the end, it was up to the project team to prioritise user wishes according to the technical and financial resources available. What is more, a project such as the Telecommunications Surveillance Programme also has implications concerning fundamental rights: telecommunications surveillance infringes on rights that are enshrined in the Federal Constitution. These

The TSPs have declared their intention to update their core systems to 5G level from early 2021.

include the right to privacy and the right of the TSPs to pursue private economic activity.

Around 10 million calls are made each day on mobile phones in Switzerland; in a medium-sized canton like Lucerne, each hour 10,000 text messages are sent and 4,000 gigabytes of data is downloaded. Filtering specific information from such a mass of data is a mammoth task, for which the TSPs are only partially compensated.

"The article in the Constitution on freedom to pursue private economic activity restricts us in making new demands on the TSPs to co-operate," explains Daniela Siegrist, a lawyer in the PTSS's Legal Affairs and Controlling division. She and her colleagues tested the legal conformity of the FLICC project for several months. Besides the economic implications, they were particularly interested in the privacy aspects of the new real-time component.

Sound evidence essential

Each individual surveillance function must be covered by the law. There must be absolutely no wriggle room between the legal framework and the surveillance measures. "Otherwise," explains Siegrist, "the infringement of privacy cannot be legitimised and it might be harder to use the data obtained as evidence."

The text of the Federal Act on Surveillance of Post and Telecommunications (SPTA) and Article 269 of the Criminal Procedural Code (CrimPC) must be observed in all cases.

Continued on page 20

There must be absolutely no wriggle room between the legal framework and the surveillance measures.

The 99-million-franc project

The processing system is the main technical infrastructure at the PTSS. The system runs in the datacentre at the IT Service Centre of the Federal Department of Justice and Police (ISC-FDJP). It receives requests from law enforcement services, and on the basis of these the PTSS instructs the telecommunications service provider to provide the data requested. The processing system makes this information available to the law enforcement services.

Following the introduction of the 4G mobile communications standard almost ten years ago, it became clear that the existing processing system would not meet the technical demands over time, and would therefore have to be fully renewed. The funding for planning, engineering, hardware and software was made available in the Development and Operation of the Telecommunications Surveillance Processing System and of the Police Information Systems of the Swiss Confederation – otherwise known as the Telecommunications Surveillance Programme. This was announced by the Federal Council in September 2014. Parliament approved funding of CHF 99 million for the programme, to be spent in instalments over several years.

Since early 2016, the components of the old processing system have been gradually replaced. The new components for order management and information requests came into operation in 2019. Work on the FLICC real-time component is ongoing.

"It must become easier for us all to conduct real-time surveillance again."

Walter Hodel, structural crime squad,
Zurich Cantonal Police, Crime Division

Law enforcement services expect the FLICC new real-time components to deliver great things. But where do the biggest problems lie?
Ten years or so ago, when we monitored telephone calls all the information in one PTSS data file fitted into one line of an Excel spreadsheet. Nowadays it's around 20 lines. The TSPs are introducing more and more internet technologies besides the 4G standard. This makes it harder and more time-consuming to evaluate and analyse surveillance data. The introduction of 5G could even lead to gaps in surveillance.

This is the price paid for the digital transformation that the economy and politicians wish to see …
… and that price is paid by the victims of crime. In the case of violent crime in particular, investigators have to work under huge time pressure. Just a few minutes lost and an investigation can collapse, with the perpetrators getting away. In a way, FLICC takes us back to the good old days – but using the very latest technology.

Don't the police just want to monitor more calls and so be able to collect more data?
Not at all. The aim of FLICC is to make the surveillance process simpler, faster and – of course – more secure.

More secure in what way?
Complex processes are by nature more open to disruption. Errors occur all the time. But if they occur in data that can be used as evidence in a court, the wrong people benefit from these errors at the end of the day.

You acted as coordinator for the cantons in the PTSS user workshops. What did this role involve?
The cantons use the PTSS's real-time component in different ways, for geographical, economic and demographic reasons. In cantons such as Zurich, Geneva or Vaud, there is a higher rate of serious crime, or structural crime; police forces in cantons in mountainous regions tend to be dealing more with the search for missing persons, for example.

Are there any requirements shared by all the cantons?
It must become easier again for us all to conduct real-time surveillance. At the moment, the smaller cantons often rely on support from their intercantonal agreements for real-time surveillance. The new system will allow them to be more independent. But larger cantons like Zurich can benefit as well. Currently, our digital forensics and crime analysts are often totally taken up with routine surveillance. FLICC will allow them to focus once again on highly complex special cases, which is what they are trained for.

Lawyers and IT experts

Implementing FLICC involves compromise between two different cultures. Reconciling technical curiosity with legal conscientiousness is not an easy task. Lawyers and IT experts do not always view the world in the same way. "I am occasionally required to act as an intermediary," explains Vinzenz Lauterburg.

The 47-year-old economist is a specialist in IT and organisation projects in special environments. Before coming to work at the PTSS, he was a business process manager at the National Sports Centre in Magglingen. Not for one moment does he regret exchanging the sun-drenched village above Lake Biel for Bümpliz-Nord: "I am fascinated by the idea that we protect citizens without infringing on their rights."

In mid 2019 the project was just an outline. Now it is taking on more concrete form. Three main improvements will help to considerably reduce the investigative workload for surveillances.

1

Technology abstraction

FLICC presents surveillance data in a way that makes it easier for law enforcement services to use it. Clearer presentation means that the investigators can hide the technical details that are of no relevance to them.

2

Plausibility check

The new real-time component checks all the data delivered by the TSPs and, among other things, identifies data that is clearly incomplete.

3

Clarity

The investigators will work with a new intuitive user interface, which allows highly efficient interaction between the human operator and the system.

Following the pilot phase, FLICC will gradually replace the existing Interception System Schweiz (ISS). Currently, the developers are focusing on the ISS's existing functions. "But thanks to FLICC's modular construction, new features can be quickly introduced," explains Lauterburg.

Keeping investigative data secret

PTSS staff member Jean-Pascal Chavanne works on the security architecture of the 5G network.

Businesses and tech-savvy consumers are looking forward to the new 5G mobile network standard. Higher data transmission rates, less energy consumption in end devices and shorter reaction times make totally new applications possible, for example in the Internet of Things and self-driving vehicles.

For Jean-Pascal Chavanne, the "Mr 5G" of the PTSS, the new mobile network generation primarily presents a technical challenge. He is the author of a 240-page document that explains to TSPs how they must deliver their data in future.

Ericsson, Nokia, Huawei and other manufacturers have introduced a totally new philosophy with 5G, explains the 57-year-old engineer. The previous 3G and 4G standards, the network's technical platform, known as the core system, comprised various components with different functions. The 5G core system, meanwhile, is a farm of identical, commercially available servers. What the core system does and what services it offers depends entirely on the software used – in the trade, this is known as a service-based architecture.

Even in a virtual world, a physical infrastructure is required for system operation. This could be located anywhere in the world. So it is important to start thinking now about how data confidentiality can be assured in these circumstances. This is particularly the case for telecommunications identifiers such as telephone numbers and IP addresses, as the PTSS demands data relating to these on behalf of the prosecution authorities.

"This kind of information must never get into the wrong hands," says Jean-Pascal Chavanne. He reckons that the Swiss network operators will start setting up their 5G core systems from early 2021. That's not so very far away, but Chavanne is optimistic: "When the time comes we'll have a solution that meets the highest security standards."

Observing Swiss politeness

Désirée Mancini is a specialist in the Provider Management division. She explains to the telecommunications service providers what their duties to cooperate involve and advises them where necessary.

"When people have questions or problems, you'll often hear: 'Ask Dési'. So I end up doing all kinds of little jobs."

Lawful Interception Officers (LI Officers) are the specialists at Swisscom, Salt, Sunrise and UPC responsible for passing on surveillance data to the PTSS. Désirée Mancini has dealings with them on a weekly basis. She is on first-name terms with them and they mostly discuss optimisation of routine processes.

However, according to the Federal Act on Surveillance of Postal and Telecommunications (SPTA), "entities required to cooperate" are not just the Swiss telecom industry's big four companies. The PTSS has 1,200 contact persons at TSPs whom they deal with, from internet providers with international operations, through larger wifi operators such as public transport systems and railway stations, to local utility companies with their own cable network.

"Very small TSPs in particular are unfamiliar with the ins and outs of the legal situation," explains Mancini. They are unaware of the role played by telecom surveillance in police investigations: that it helps to solve serious crime and to find missing persons in cases where there may be a threat to life and limb.

Much of Désirée Mancini's work involves explaining the situation to these companies. She informs them of the statutory requirements and the conditions of the so-called "downgrade procedure": since the recent SPTA revision, smaller providers have had the option of being released from certain surveillance obligations.

"Nobody really gets excited when they get a call from the PTSS," says Mancini, especially as delivering surveillance data involves costs and manpower. Sometimes on the phone she gets to feel the TSP's irritation, although this should really be directed at the lawmakers. But the 32-year-old from Bern remains relaxed: "I always keep calm. Swiss politeness is usually the most effective approach to adopt."

She has been interested in police work, law enforcement and criminal prosecution since her schooldays. Following an apprenticeship as a clerk in a legal practice, she went on to work for the office of the public prosecutor for the canton of Bern and for the Office of the Attorney General of Switzerland. She joined the PTSS in 2014. In the meantime she has completed a diploma in criminology at the University of Bern.

Désirée Mancini is one of a team of three in her job at the interface to the TSPs. When her colleague and the intern are also in the office, she finds time for her unofficial role helping out with all kinds of other things at the PTSS.

"When people have questions or problems, you'll often hear: 'Ask Dési'. So I end up doing all kinds of little jobs," she says. She sets up introductory programmes and initial tasks for new employees, is one of the super-users for the document management system and helps to organise events such as the Lawful Interception Day.

Until the handcuffs click shut

Since March 2018, Article 36 of the Federal Act on the Surveillance of Post and Telecommunications (SPTA) has given the police new powers to trace the whereabouts of convicted persons. The wanted persons division of the Bern Cantonal Police is making use of these powers. On patrol with two experienced investigators.

The target is driving along the A1 motorway from Bern to Zurich. At this point in time he is not on the telephone. Somewhere in the canton of Aargau he leaves the motorway and switches off his mobile phone because he knows that the police are aware of his phone number. The cantonal investigators assume that the target is hiding on an industrial estate, but they cannot find him.

Then the investigators receive information from the officer leading the operation that the target is on the move again, continuing his drive eastwards. The ring road around Zurich is full of commuter traffic. Not wanting to lose the target, the officers switch on their flashing blue lights and siren to forge a lane through the traffic.

A torch, a radio and a set of handcuffs

"At this point in time the target still had no idea we were on to him," says Guido Baumgartner, head of the fugitive search division at the Bern Cantonal Police. Baumgartner is sitting in his office, dressed in a T-shirt and jeans. He is armed. His holster also contains a torch, a radio, a set of handcuffs and spare ammunition.

Sitting next to him is Mathias Guex. The 38-year-old is one of the division's investigators. He too is wearing a T-shirt, and brown cargo trousers. Guex and his boss agree: "Real-time tele-

“If we know a wanted person’s telephone number, we will find them sooner or later.”

Guido Baumgartner, head of the wanted persons division of the Bern Cantonal Police

communications surveillance is an indispensable tool in investigations."

Surveillance operations are strictly regulated, however. In general, a surveillance order can only be issued as part of an ongoing criminal procedure if the underlying offence relates to a serious criminal act defined in legislation, such as endangering life or limb, hostage taking or robbery. Moreover, any act of surveillance requires authorisation from the relevant cantonal compulsory measures court.

Before the revised SPTA came into force in March 2018, the law enforcement services had no power outside of criminal proceedings to intercept telecommunications in order to search for convicted persons, except in the case of international mutual assistance proceedings. "We were unable to approach the compulsory measures courts," Guido Baumgartner explains.

> "When it comes to money and market share, there is a certain readiness in the drug scene to divulge numbers."
>
> **Mathias Guex, investigator in the wanted persons division of the Bern Cantonal Police**

The introduction of Article 36 SPTA, which allows the authorities to order the surveillance of post and telecommunications "in order to trace a person on whom a legally binding and enforceable custodial sentence or custodial measure has been imposed", was long overdue, according to the head of the wanted persons division. With the consent of a police officer, it is now possible to approach a compulsory measures court directly. Last year, the Bern Cantonal Police conducted nearly 50 manhunts for escapees: in four of these cases telecommunications surveillance was carried out under the new Article 36 (see statistics on page 31).

If investigators can identify the target person's telephone number, they request authorisation from the compulsory measures court to conduct surveillance. How they obtain phone numbers is confidential information, of course. "We cannot disclose details on police investigation tactics," the head of division explains.

Back on the streets

What always helps is experience. Baumgartner, a qualified electrician, has been a police officer for more than 20 years. He knows his clientele. For example, he knows that wanted persons who are convicted drug offenders can usually be found back on the streets, close to the drug scene.

This is where the investigators begin their search. Those who come out of prison are often not very welcome on the scene again; they are unwanted rivals. "When it is a question of money and market share," Mathias Guex explains, "there is a certain readiness in the drug scene to divulge phone numbers."

Every wanted person is caught in a dilemma. While they need money and a roof over their head, they are aware that contacting friends or relatives can be risky. "Life on the run is hard,"

“He was baffled to see us.” Guido Baumgartner

says Guido Baumgartner, “I wouldn’t want to change places with any of our targets.”

Hardship and stress sometimes put bizarre ideas into the heads of those on the run. Investigator Guex remembers one person who tried their luck at the lottery: since the man had no fixed abode he gave his name and mobile phone number to the lottery agent. That was the lead that resulted in his arrest.

Non-experts may think that there is nothing easier than pinpointing the whereabouts of a person whose telephone number is known. “Unfortunately that is a misconception,” says Baumgartner. In general, the police in Switzerland do not have access to the geolocation services available on nearly every mobile device and used by various app providers to optimise their services.

“We have to track antennae using PTSS surveillance data,” investigator Guex explains. These operations trigger intense activity in the cantonal police’s so-called TC bureau: one member of staff monitors voice traffic, another tracks the mobile device using the antenna site, and a third person analyses and assesses the findings of the investigation.

Three or four teams on the ground

The head of the division takes over the radio communication with the officers on the ground. “In serious cases, we deploy three or four teams, each with two officers,” says Guido Baumgartner. If necessary, an observation and intervention unit can also be called on to assist in the operation.

The success rate of search operations supported by telecommunications surveillance is high – very high in fact. “If we know a wanted person’s telephone number,” says Baumgartner drily, “we will find them sooner or later.”

This is what happens with the target on the A1, who continues driving east. With the Austrian border approaching, the man becomes careless and leaves his mobile phone switched on. From the telecommunications surveillance data, the investigators in the TC bureau receive regular information on the approximate location of the mobile device under surveillance.

The target leaves the motorway in the St Gallen Rhine Valley and turns into a restaurant car park near Gams. As he leaves the restaurant, the handcuffs click shut. Guido Baumgartner remembers the operation: “He was baffled to see us.”

03

FACTS AND FIGURES

Reasons for surveillance

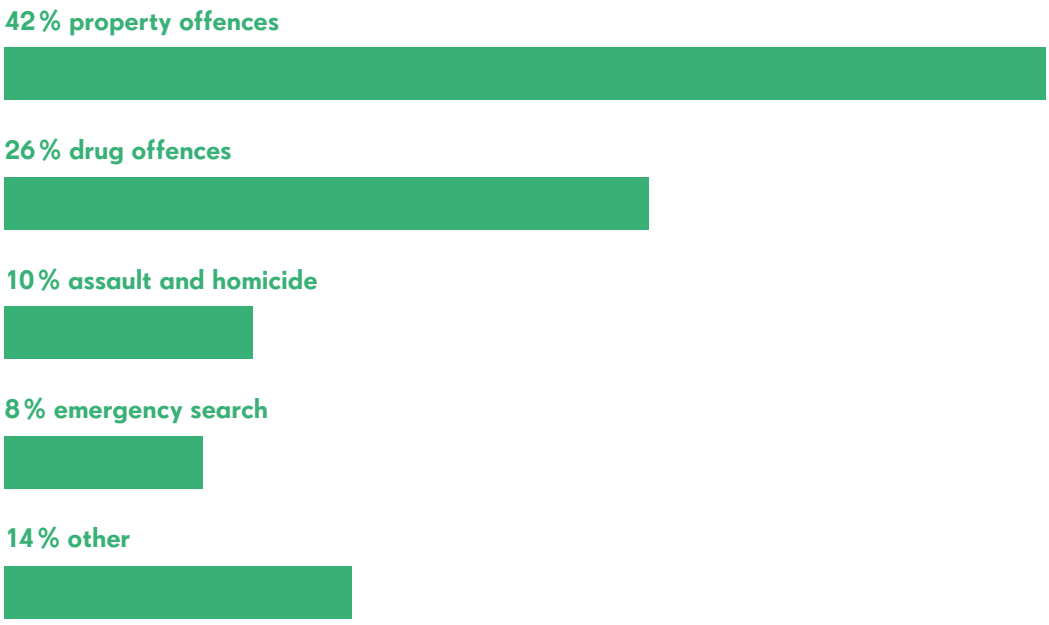
According to police crime statistics, 544,781 offences were reported in Switzerland in 2019. Telecommunications surveillance was used as an investigative measure 8,666 times, a comparatively low proportion.

Surveillance measures were most often used to investigate cases involving property offences (42 per cent). In second place, at 26 per cent, were cases involving violations of the Narcotics Act, while in third place were offences against life and limb, at 10 per cent.

Telecommunications surveillance can also be used in the search for missing persons – so-called emergency searches. In 2019 it was used in 8 per cent of all cases, coming in in fourth place.

You can find further information on our statistics at:

www.li.admin.ch/en/stats



Surveillance measures: definitions, numbers and types of information

1. Real-time surveillance
Real-time surveillance is the simultaneous, slightly delayed or repeated transmission of post or telecommunications data to the law enforcement services over the processing system.

2. Retroactive surveillance
Retroactive surveillance involves, in particular, the inspection of telephone records (who called whom, when and for how long).

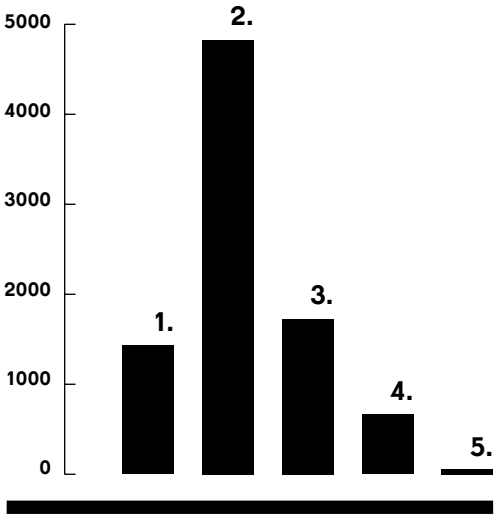
3. Antenna search
An antenna search involves a mobile radio cell or a public wifi access point. It registers all communication, attempts at communication and network access within a specific time frame.

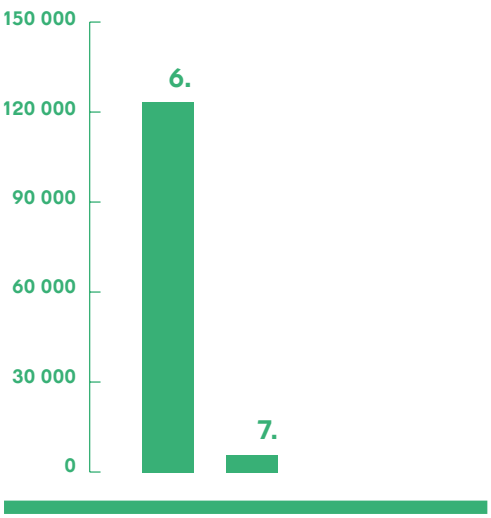
4. Emergency search
An emergency search might be ordered to find and rescue an injured hiker or a missing child.

5. Criminal search
A criminal search enables law enforcement services to locate the whereabouts of people who have been sentenced to a custodial sentence or measure in a final and enforceable ruling.

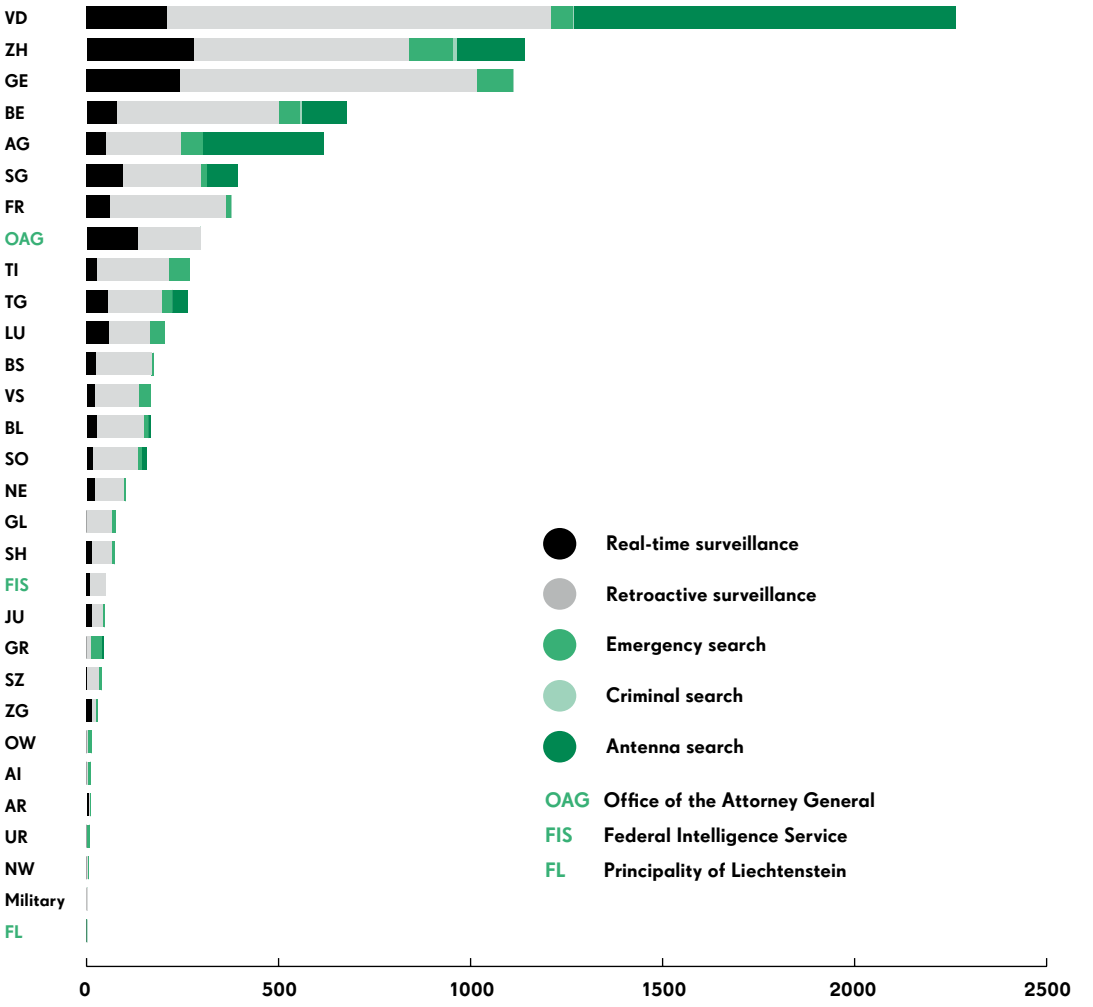
6. Simple information
Simple information includes basic information on telecommunications connections, for example who the subscriber of a particular telephone number or IP address is.

7. Complex information
Complex information provides more detailed information on telecommunications connections, including copies of contracts and identity documents.





Surveillance requests from the Confederation, cantons and Liechtenstein



What is an antenna search?

An antenna search is a surveillance measure used by law enforcement services to find out which mobile telephones were connected to a specific antenna at a given time. The objective is to identify who was where, and when. This is done by evaluating so-called radio cells, the area around a transmission or receiver station where mobile telephone signals can be received without any errors.

Number of citizen enquiries

20

Number of on-call assignments

778

Number of registered WMC and IRC users

6 500

Number of special cases

29

Number of media enquiries

23

PTSS financial performance in CHF

Total revenue

12.6m.

Total expenditure

31.5m.

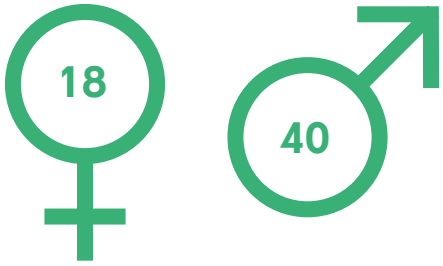
Federal contribution

18.9m.

Number of staff employed

58

Female and male ratio



Average age

44

Languages spoken

59 % German

10 % Italian

22 % French

9 % Other

Age groups

20 – 29 years
14 %

30 – 39 years
21 %

40 – 49 years
29 %

50 – 59 years
33 %

60 – 69 years
3 %

“I am fascinated by the idea that we protect citizens without infringing on their rights.”

Vinzenz Lauterburg
Deputy Head of Legal Affairs and Controlling

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For the sake of better legibility and comprehension, we have refrained from using complex technical and legal terms. We have also tried to use gender-neutral language where possible.

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