Circling the perpetrator – Intelligence-led DNA screening as an investigative tool

The study: Background, research questions and data collection

Background
When, during an investigation into a serious crime, the police are not able to identify a concrete suspect, but do assume the perpetrator can be found in a defined circle of people, they can ask these persons to voluntarily provide a DNA sample with the objective of comparing this to biological traces left by the perpetrator during the crime. In such a case we speak of an intelligence-led DNA screening or DNA mass screen.

According to our sources, the first intelligence-led DNA screening was carried out in 1999, in order to try and find a serial rapist who had been active in and around the city of Utrecht since 1995. Between 1999 and December 2004 screening was used in a further thirteen criminal investigations in The Netherlands. In 2001, the Dutch Minister of Justice and the Board of Procurators General gave specific instructions as to how intelligence-led screening as an investigative tool should be applied. Conclusively, both the intelligence-led DNA screening exercise and its legal framework are relatively new. Until now, hardly any empirical research has been carried out into the application of this investigative tool and its results, there is however a great need for this kind of information. On the one hand because the tool and the legal framework are relatively new; on the other hand because the practicality in the field has signalled a lack of clarity as to this legal framework. The Dutch Ministry of Justice and the Board of Procurators General therefore asked the Scientific Research and Documentation Centre (WODC) to study the application of intelligence-led DNA screening in practice. This report renders an account of that study.

Research questions
The central research question of this study reads:

*Which considerations play a role in the application of an intelligence-led DNA screen, how is this investigative tool used, what are the results thereof and what are the factors that influence these results?*

This research question can be divided into four sub-questions, which relate to the decision to carry out an intelligence-led DNA screening, the setup and execution thereof, the results and the factors that influence these results.
Data collection
Within the framework of this study, information concerning 22 criminal investigations was collected. In fourteen cases an intelligence-led DNA screening was carried out. The other eight cases consist of two groups. Firstly cases which, in principle, qualified for an intelligence-led DNA screening, but for which this investigative tool was (ultimately) discarded. Secondly, cases whereby DNA samples were taken from volunteers, but where it is not clear whether this should be considered as an intelligence-led DNA screening.

The fourteen cases where an intelligence-led DNA screening was carried out, were studied intensely using the files compiled for these cases by the Dutch National Office of the Public Prosecution Service and the Netherlands Forensic Institute (NFI), and using both written questionnaires and face-to-face or telephone interviews with investigation team members. Strictly general information was collected from members of the investigation team and the NFI with respect to the other eight cases, using telephone conversations and face-to-face interviews.

Intelligence-led DNA screening and the investigation process: practical en legal dilemmas
Although the application of an intelligence-led DNA screening is relatively new, the use of intelligence-led screenings among considerable numbers of non-suspects to solve a crime, dates back a couple of decades. In 1974 for instance, the male residents of Blijham in the Dutch province of Groningen were asked to cooperate in a writing test in order to find the perpetrator of a series of arson attacks. A year later, 589 men in Rotterdam were asked for a sample of their fingerprints within the framework of a murder case. So intelligence-led screenings among non-suspects as such are not new. However, the possibilities of large scale screenings have been considerably enlarged by certain characteristics of DNA material and by the developments in the field of DNA analysis.

First, physical activities are often accompanied by the offender leaving DNA material. Partly for that reason, biological traces are found more often at the crime scene than hand-written notes or fingerprints for instance. Secondly, compared to other traces, DNA material has high discriminative powers. Persons can be categorically ruled out as a suspect by means of their DNA. Thirdly, it is easier to compare DNA profiles than it is to eliminate persons by means of other traces, such as their handwriting or their fingerprints, or by checking their alibis.

An intelligence-led DNA screening thus offers possibilities during an investigation which other tools can only offer to a limited extent. These possibilities and the fact that intelligence-led DNA screenings are aimed at non-suspects do however also generate some dilemmas.
The first dilemma concerns the information DNA material contains. Although DNA material is used in the same way as a fingerprint or handwriting during an investigation, DNA is more than just a code that can be used to identify people. To create a DNA profile, non-coded DNA material is used, which means that no information about personal features can be derived from it by virtue of the latest scientific and technical knowledge. However, other parts of the DNA do contain information about hereditary traits, and a DNA analysis could in principle yield hereditary traits and disorders. Knowledge of the fact that the donor of a crime stain which is attributed to the offender has certain external features or suffers from a certain disorder can be of importance to the investigation. However, it may also mean that, when it concerns a disorder which will manifest itself at a later age, a person who enters the picture during a criminal investigation is faced with a future fate which he previously knew nothing about, thus violating his ‘right not to know’. Furthermore, people also inherit the non-coded part of their DNA, half of it from their father and half of it from their mother. DNA profiles of blood relatives therefore are similar to a certain extent. Based on the comparison made between the DNA profile of a known person and the profile of the crime stain, conclusions can be drawn concerning the probability that a blood relative of that person is the donor of this stain, without that relative himself being approached for a DNA test. A family relationship test can be of practical value to the investigation. However, the notion of family relationships also begs the fundamental question whether it is lawful for a DNA test carried out on the bodily materials of a certain person should have consequences for others.

A second dilemma relates to expanding the scope of a criminal investigation which goes with an intelligence-led DNA screening. An oft-mentioned advantage of the DNA investigation is that persons who are for some reason ‘interesting’ or suspected can clear themselves of any suspicion or ‘interest’ by the police by voluntarily submitting a DNA sample, while it would often be impossible or more difficult to eliminate them without this tool. The advantage of a person being able to prove his innocence is countered by the assertion that some of the persons selected for an intelligence-led DNA screening probably would never have had to prove their innocence if it were not for the existence of this tool. After all, there are no strong, concrete individual clues as to the involvement in a crime of persons who are selected within the framework of an intelligence-led DNA screening. This challenges the classic basic principle that a criminal investigation targets persons for whom there are clues that can be traced back, indicating their possible involvement in the relevant crime.

The application of the subsidiarity principle is the third dilemma. The subsidiarity principle stipulates that an investigative tool is not to be used if the same result can be achieved with a different, less invasive tool. Applying this basic principle in practice can be interpreted in
several ways. On the one hand, emphasis could be put on the exhaustive investigation of all possible leads with the use of all kinds of different investigative tools. In that case, an intelligence-led DNA screening is truly a last resort. On the other hand, when the efficiency aspect is underlined, a less invasive investigative tool must be used if it yields the same results using a reasonable amount of capacity. So, the dilemma of the subsidiarity principle relates to the question whether intelligence-led DNA screening should be a *last resort* (an *ultimum remedium*), or that it should also be allowed as a *more efficient* tool.

The fourth dilemma has to do with the fact that an intelligence-led DNA screening is aimed at non-suspects, who participate on a voluntary basis. In the context of an investigation, *voluntariness* is a problematic notion. The basic principle of voluntariness means that the persons who are approached for a DNA test can refuse to comply. The investigation team has to decide how to handle these non-compliers. Often it is not possible to eliminate them by ‘classic’ means, such as an alibi check. Using coercive means to obtain information about the DNA profile of someone who refuses to cooperate, or doing this in a roundabout way, would not be in accordance with the voluntary nature of an intelligence-led screening and would be in conflict with the law. Of course it is possible to persuade people to cooperate, but approaching them too often or putting too much pressure on them would be detrimental to the concept of voluntariness. Furthermore, we must realise that, although people participate of their own free will, the social environment in which the screening is carried out can put implicit or explicit pressure on the selected subjects. Apart from that, the possibility of detecting family relationships on the basis of partial matches between DNA profiles, evokes the question what the participants to a DNA screening have actually let themselves in for. Does their consent only relate to a comparison between their DNA profile and the DNA profile of the crime stain which can result in either a full-match or in a non-match, or does their consent also stretch to obtaining knowledge about the possible involvement of their family members, in case the comparison leads to a partial match?

**Legislation with regard to intelligence-led DNA screening**

The legislator made a decision taking some of the aforementioned dilemmas into consideration. An intelligence-led DNA screening involves an *unidentified DNA profile* from a crime stain which is attributed to the offender, and which contains information about the offender, and a defined circle of *non-suspects* whose DNA is to be compared with the DNA-profile of the stain.

As to the analysis of unidentified crime stains, the law allows for both coded and non-coded DNA material to be used in order to establish the
gender, ethnic-geographical origin or other visible external features of the unknown donor, to be designated by order of a counsel. These features should be of no surprise to the donor himself as they are visible. The legislator did not explicitly comment on kinship information which can sometimes be derived from a comparison between an unidentified DNA profile from a crime stain and the DNA profile of the victim, a suspect or a participant in an intelligence-led DNA screening. This subject has never been under discussion in legal history either. When the laws were formulated and discussed, the possibility and especially the consequences of kinship investigation were probably never taken into account. The Dutch Board of Procurators General did send a letter to the various Public Prosecutor’s Offices at the end of 2005. This letter states that targeted kinship investigation is not permitted and that spontaneous discoveries of possible kinship by the NFI may only be announced to the Board of Procurators General. In such cases, the Board of Procurators General will decide whether the investigation team is also permitted to receive the relevant information.

The legal possibility of carrying out a DNA investigation among non-suspects is provided for by article 151a of the Code of Criminal Procedure. A DNA investigation among non-suspects can only be carried out on a voluntary basis, following written approval, and use of donated material only is permitted. DNA profiles of non-suspects may only be compared to specific crime stains and may not be added to or compared with the DNA database (unless the DNA profile of the non-suspect matches with the DNA profile of the crime stain and the non-suspect can, as a result of this match, be regarded as a suspect). This section of the law also forms the basis for intelligence-led DNA screening among non-suspects. However, a more specific legal framework is also in place for this investigative tool. In January 2001, a memorandum from the Dutch Ministry of Justice was published, detailing a number of terms under which intelligence-led DNA screenings are permitted:

- It involves an extremely serious crime which causes major social unrest.
- There is no suspect and the number of clues available offer little chance of the crime being solved, using reasonable means.
- The tool can logically contribute to the crime being solved, i.e. there must be a useful crime stain, that yields an adequate DNA profile, and there must be strong indications – substantiated by facts – that this stain comes from a person within the defined circle of people.
- The defined circle of people who will be approached for a DNA-test is no larger than is required in the interest of establishing the truth.

In response to this memorandum from the Dutch Ministry of Justice, the Board of Procurators General formulated an instruction, outlining rules on how to carry out, among other things, an intelligence-led DNA screening. This instruction is in accordance with the conditions from the
Ministry of Justice memorandum, and additionally requires investigation teams to ask the Board of Procurators General for permission before starting an intelligence-led DNA screening.

The practical application of intelligence-led DNA screening

In this study we investigated how intelligence-led DNA screening is used in practice, how the aforementioned dilemmas are dealt with and to what extent the legal framework offers a sufficient amount of support for the investigation teams.

When is an intelligence-led DNA screening used?
As previously mentioned, fourteen intelligence-led DNA screenings have taken place in the Netherlands pre-December 2004. During these screenings the investigation teams collected DNA material from 4,600 non-suspects in total. In all cases, the intelligence-led screening is started following a reasonably long period of investigative activity. However, the investigative efforts and the time that goes by before this tool is used differ from case to case. Four cold cases and a retrial were aimed at carrying out an intelligence-led DNA screening from the moment they were re-opened. In the other nine cases, the start of the screening varied from less than two months to three years after the offence had taken place. The moment at which an intelligence-led screening is started depends on the amount of other possible investigative means which may lead to the offender. However, it is difficult to objectively pinpoint a moment at which investigators feel that reasonable deployment of means will not lead to a solution. The interpretation of this moment differs per team.

On making inquiries among detectives and investigation teams, another important finding reveals that there are probably very few criminal investigations during which intelligence-led DNA screening was not applied, even though the case was qualified for it and met all the required criteria. There are hardly any examples of investigations of extremely serious crimes during which useful DNA traces of the perpetrator were found and where classic methods of investigation did not lead to a suspect, but during which an intelligence-led screening was not carried out. Apparently, the numbers of cases that meet these criteria are few and far between.

Investigative findings regarding the legal framework

Content of the legal framework: definition of ‘intelligence-led DNA screening’
The basis for carrying out a DNA investigation among non-suspects is provided for by article 151a of the Code of Criminal Procedure. However,
there are separate guidelines for intelligence-led DNA screenings, and the investigative tool may only be used following the approval of the Board of Procurators General. Since an intelligence-led DNA screening is subject to separate conditions, it is important to explicitly distinguish this investigative tool from ‘regular’ (i.e. less large-scale) DNA investigations among non-suspects. When are DNA tests among non-suspects defined as an intelligence-led screening? There is no unambiguous dividing line. In fact, it is not possible to come up with a clear and comprehensive definition, and the few defining texts available in parliamentary documents and legislation seem to contradict each other. Based on investigative findings we recommend providing a clear definition if the separate regime this investigative tool is subject to is to be maintained. Whether intelligence-led DNA screening remains part of this separate regime is of course subject to political consideration which relates to both fundamental and practical aspects. A ‘regular’ DNA investigation can only be explicitly distinguished on the basis of the number of non-suspects who are involved in the investigation. The status of the relevant non-suspects, i.e. the information that led to the non-suspects coming into the picture during the criminal investigation, is not a feasible distinction. Since an unambiguous distinction can only be made on the basis of a numerical limit, the NFI made an inventory of the cases during which samples from non-suspects were compared to perpetrator evidence found at the crime scene. Based on this inventory, a limit of ten to fifteen non-suspects seems to be the most realistic.

Content of the legal framework: deducing personal features
Earlier in this document we discussed the dilemma of the information DNA material contains, referring to the possibility of deducing personal features from DNA material. Currently, legislation only allows investigations into gender and ethnic-geographical origin and any other features to be pinpointed in the future, not explicitly excluding disorders and illnesses. If the two aforementioned features – disorders and illnesses – are added, it should at least involve a disorder or illness of which it can be assumed that the person involved is aware, based on its external visibility. A remarkable fact in this respect is that, during the debate surrounding the relevant legislation, the Dutch government argued that Down's syndrome will not be included in these features. Excluding Down's syndrome is remarkable in that it concerns an outstanding example of a disorder that is visible from birth. Also, it is one of the few disorders also visible in the non-coded part of the DNA used to create a DNA profile. Thus: even if an NFI investigator is not looking for it, he will in many cases notice Down's syndrome. The argument given during the debate for exclude this feature was that it was not expected to make a relevant contribution to the search for the perpetrator. When this report was written however, the NFI was dealing with a specific case during
which DNA material that was being investigated in relation to a crime yielded this feature. The NFI investigator thus gathered knowledge he should not reveal to the investigation team by virtue of current legislation. Due to the limited number of features that can currently be established to a sufficient extent on the basis of DNA, apart from legal restrictions, this aspect of the dilemma of information in DNA material only accounts in a few cases. The example given however, shows that it does happen and it is quite possible for the prevalence of such problems to increase due to the scientific developments in the field of DNA investigations.

Content of the legal framework: investigating kinships
The second aspect of the dilemma of information DNA material contains concerns the possibility of investigating kinships. It is a dilemma as investigating kinships could in theory offer the possibility of circumventing regulations prescribed in the law and legislation. Our study, which was carried out prior to the above-mentioned Dutch Board of Procurators General memorandum issue, demonstrated that in practical operations there is no homogeneous and clear picture of the statutory (in)admissibility of kinship investigation. Since the matter raises legal and practical questions which have remained unanswered until the present day, it appears to be desirable for further ideas to be formed and positions to be defined, whether or not formulated in legislation. The defining of a position is not included in this publication. We do formulate a number of important questions. The key question is of course: when is investigating kinships allowed and when is it not? First, a distinction should be made between the legal categories of persons, viz., suspects and non-suspects. A second vital distinction, especially in the case of non-suspects, is the one between investigating kinships aimed at making statements on consenting and non-consenting persons, with provision made for deceased or absent parties. A third distinction which is important when answering the key question, is the distinction between goal-oriented kinship investigation, such as when approaching a family member of an emigrant or a suspect, and a spontaneous discovery of possible kinship by the NFI. In the final chapter of this publication we discuss the matter of investigating kinships in greater detail.

Enforcement of the legal framework: the requests for intelligence-led DNA screenings in relation to the actual execution
An important part of the intelligence-led screenings has in practice been carried out without the Board of Procurators General issuing their opinion. As such, the enforcement of the legal framework is insufficient. With regard to three of the fourteen cases studied, permission for at least part of the screening carried out was not requested or was requested late, and the Board of Procurators General was not informed of these activities in any way. Furthermore, in three cases (part of) the
intelligence-led DNA screening was not formally requested. In these cases a mere ‘announcement’ of a DNA investigation among large groups of non-suspects, whether or not in progress, was made. This observation is limited to the cases which have been thoroughly examined in the WODC study. However, a brief inventory at the NFI demonstrated that DNA is collected from dozens of non-suspects without prior approval having been obtained from the Board of Procurators General in alternative criminal investigations too. An important issue in requests for approval not being made or made late is that investigation teams are often under the impression that the DNA investigation carried out by them among (large numbers of) non-suspects does not fall under the definition of an ‘intelligence-led DNA screening’ and therefore does not require an approval of the Board of Procurators General. This in turn is largely explained by the, previously mentioned, lack of a univocal definition of an intelligence-led DNA screening.

Moreover, in cases in which approval has been requested for an intelligence-led DNA screening, ultimately DNA was collected from (many) more non-suspects than provided for by the approval of the Board of Procurators General. In intelligence-led DNA screenings which have been announced at any one time, DNA material was collected from 2,755 non-suspects, whereas applications had been submitted for DNA samples to be taken from only 1,797 persons. Therefore, in the cases concerned, an excess of 958 samples have been taken (186 thereof concerning samples from non-suspects which were taken prior to a large-scale DNA investigation having been requested or announced; 772 are in excess of the number stated in the application or announcement). If, in addition, we take into consideration the screenings which were never (formally) reported to the Board of Procurators General, this discrepancy is of course even larger still: 1,797 approved samples compared to a total of 4,600 samples taken within the framework of an intelligence-led DNA screening.

Enforcement of the legal framework: examination of applications for intelligence-led DNA screening by the Board of Procurators General

Once a DNA investigation has been reported to the Board of Procurators General, the Board of Procurators General must determine whether this concerns an intelligence-led DNA screening and whether the use of this tool is permitted in this specific case. The files that have been examined demonstrate that the Board of Procurators General, in the period the files relate to, has taken up different positions with regard to the question as to what is and what is not included within the scope of an intelligence-led DNA screening.

Furthermore, intelligence-led DNA screenings, insofar as they are applied for, are in most cases approved by the Board of Procurators General. However, this approval is often granted after a request has been denied in the first instance. These rejections mostly relate to the group to be
subjected to the screening, selected by the investigation teams. The adjustments which the Board of Procurators General require in the presented investigations, often concern a more detailed and precise substantiation of the selection, fewer people being selected and/or a phased execution of the screening. These types of adjustments often share a common ground in that the Board of Procurators General attaches great importance to the fact that the circle of people selected in the first instance is subdivided into different subgroups which, on the basis of a number of features, can be classified in terms of the likelihood of the perpetrator being among them. Although the aim to keep the number of non-suspects in a DNA investigation to a minimum is understandable, in practice this emphasis on subdividing and reducing the selected circle of people produces some important disadvantages, which we will discuss later in this summary. In view of these disadvantages it is advisable to reduce the emphasis on a subdivision of the selected circle of people into subgroups when testing the plans that have been presented. As part of this test, more attention could be paid to the ‘quality’ of the defined circle of people selected in the first instance; did the investigation team, on the basis of the available intelligence, outline a clearly defined circle of people? If the circle of people has not been strictly defined the chances of success are likely to be limited, and there is chance that this circle is insidiously increased. In that case an intelligence-led DNA screening must not be effected. However, if the investigation team does produce a well-defined circle of people, it may be advisable to involve the entire circle in the investigation, rather than stimulating a rigorous reduction of that circle on the basis of a sub-division in all types of subcategories. As far as the process is concerned with which the requested intelligence-led DNA screenings are tested, part of the communication between on the one hand the Board of Procurators General and the investigation team on the other appears to be informal. Although the speed with which such communications can be conducted is a considerable advantage, an important disadvantage is that it is hard to establish what exactly has been agreed later on.

Another relevant observation regarding the communication between the Board of Procurators General on the one hand and the investigation team on the other, relates to the feedback of the results and the implementation of intelligence-led DNA screening. With regard to the intelligence-led DNA screenings which have been reported to the Board of Procurators General, it appears that, after having been reported, feedback from the investigation team to the Board of Procurators General regarding the course and the results of the investigation is often not given. Therefore, the Board of Procurators General is often not informed of the actual execution and results of intelligence-led DNA screenings. The omission of feedback is detrimental to the performance of duties by the Board of Procurators General.
Set-up and course of intelligence-led DNA screening

Selection of persons
An intelligence-led DNA screening can only be carried out if the investigation team has an idea of the circle of persons the investigation must focus on. The extent to which a team can clearly define a circle of persons on the basis of available intelligence, differs from case to case. On the one side of the continuum, there are intelligence factors which lead to a single, dominant and directive hypothesis regarding the group of people to be investigated, while this group can be clearly defined at the same time. This is the case for example, when an offence has been committed in an isolated area and it is assumed that the offender must be sought within this area. On the other side of the continuum, there are factors which prevent reaching a clearly defined subject group or which lead to a group which is impractical in terms of scope.

On the basis of our study we conclude that an intelligence-led DNA screening is in fact only advisable if the available intelligence makes it possible to reach a univocal and more or less strictly defined circle of people, such as all residents of sectors I and II in village X or all male members of a bowling association. When such intelligence is lacking and there is a mere focus on a strongly heterogeneous and rather diffuse subject group, the chances of success in an intelligence-led DNA screening are likely to be smaller. Furthermore, in the event a clearly defined circle of people is lacking, there is the danger that the subject group continues to expand during the investigation.

In many intelligence-led DNA screenings the circle of people mapped out initially, and in which the offender could reasonably be present, is subdivided into different subgroups. This, for example, is often done by classifying the initial subject group on the basis of a number of features and thus forming subgroups which show features pertaining similarities to a greater or lesser degree to the expected offender. It is possible to preliminarily phase collection of actual DNA samples, commencing with the most ‘interesting’ group. Such a phased working method is also encouraged and/or required in the opinions expressed by the Board of Procurators General regarding the plans that have been presented for an intelligence-led DNA screening. On the one hand, there are some well-founded arguments for reducing the subject group by deviding it up into different sections. On the other hand, this working method includes four important disadvantages.

First of all, subdividing this group of people can often only take place by means of ‘classic investigative methods’ such as hearing witnesses and checking alibis, partly diminishing the efficiency of large-scale DNA investigations. Second, reducing the network of non-suspects to an absolute minimum on the basis of a large number of features brings the danger of false accuracy. During investigations, for example, numerical
values are sometimes attributed to different personal features, in order to ultimately introduce a classification among hundreds of people on the basis of the compiled sum. This assumes a degree of quantifiability which is often not realistic. Thirdly, the extent to which a phased collection of DNA materials can be carried out in practice sometimes proves to be limited. A fourth disadvantage is that the means which are deployed to reduce the subject group – in order to minimize the number of people involved in a DNA investigation – can be deemed as more aggravating than the DNA investigation itself. Some people regard visiting non-suspects and their family, sometimes repeatedly, completing extensive questionnaires and checking alibis a greater violation of their privacy than a buccal swab. On the grounds of these study results too, we conclude that the decision to carry out an intelligence-led DNA screening must be made particularly on the basis of the extent to which the available intelligence is convincing in terms of a well-defined group of people. If there is such a circle of people, it will often prove more efficient to involve the entire circle in the screening rather than introducing a rigorously reduced subdivision.

Finally, a comment on the tools the police can use during the selection of persons in an intelligence-led screening. One of the instruments is a behavioural expert or profiler. However, in practice the investigation teams hardly use offender profiles for the selection of persons. The profiles are either deemed too general to make a group selection or in the event of a more specific profile, the investigation team deems the risk of the offender not meeting the profile criteria too high and therefore decides not to use it when selecting persons.

Contacts with the NFI
The investigation teams are positive about cooperation with the NFI. During an intelligence-led DNA screening there is always a fixed contact person at the NFI who informs the team on the state of affairs. Agreements are made with this person regarding the number of samples which will be submitted as well as the term within which the results may be expected. According to the investigation teams these agreements are generally honoured.

Dealing with people who refuse to cooperate
Our study demonstrates that the willingness to cooperate in an intelligence-led DNA screening is extremely high. In accordance with the intelligence-led DNA screenings that have been examined, the average percentage of people refusing to comply is roughly one per cent. Non-suspects located within the physical or social surroundings of the victim are more willing to cooperate than persons selected on the basis of certain antecedents.

The range of options investigation teams have with respect to subjects who refuse to cooperate in an intelligence-led DNA screening is rather
limited. It generally boils down to approaching these persons once more and eliminating them from the investigation through alternative methods. A number of people who refuse to cooperate are eliminated on the basis of DNA sample-taking among close relatives. Each person who refuses to cooperate is of course one too many for the investigation team. However, people who refuse to comply represent a ‘problem’ which is inevitable. After all, non-suspects participating of their own free will is a characteristic of this investigative tool.

The results of intelligence-led DNA screening

In two of the fourteen intelligence-led DNA screenings, the perpetrator was among the participating non-suspects. However, the direct positive results of using this investigative tool are wider. For example, in a third case, a person who refused cooperation was subjected to closer investigation. On the basis of newly collected intelligence, this person was ultimately made a suspect and subsequently convicted. In a fourth case, probably as a result of the attention the large-scale DNA investigation received in the local media, a tip was received on a person during the preparation of the intelligence-led DNA screening. This person ultimately proved to be the offender. In a fifth and final case, the potential positive results of the intelligence-led DNA screening is much more speculative, yet worth mentioning. Here it concerns a series of arson attacks and threats which have stopped after an intelligence-led DNA screening was carried out. It is possible that the offender became scared of being detected, as a result of this tool being used. In addition to the four cases in which the intelligence-led DNA screening made a definite or possible contribution to a crime being solved and the fifth case in which this investigation possibly contributed to ending a series of crimes, there are a further two cases in which the offender was ultimately identified entirely independent from the intelligence-led screening.

An effective investigative tool?

Due to the small number of cases and the high complexity of these cases it is impossible to comment on the effectiveness of intelligence-led DNA screening as an investigative tool. What we can state here is that an effective deployment of intelligence-led DNA screening requires the investigation team to map out a clear and practical, in terms of composition, definition and scope, circle of persons, on the basis of the intelligence they acquired during the investigation. Whether such a circle can be created depends on various aspects. The chance of creating such a group is probably highest in a village environment. After all, the population figure is often smaller and the degree of isolation generally higher compared to urban residential areas. Furthermore, within village
communities anonymity is often more difficult. There is a higher social control as a result of which it will be easier to find out who was present in the village at a particular moment in time, including visitors and guests. In addition, as a result of this decreased anonymity, or higher social control, the social pressure to participate in an intelligence-led DNA screening will probably be higher. Finally, it is not only easier to select a clearly defined circle of people in a village rather than in an urban surrounding, the probability of the perpetrator being part of this circle is also higher in a village than in an urban environment. Offenders are known to commit their offences often in locations where the routine of their everyday lives takes them, such as on their way to work or to the pub. Since a relatively low number of people move within a village without actually living there, the chance that the perpetrator resides in the surroundings of that location is relatively high in the event of an offence being committed, higher compared to the offence being committed in the city.

In addition to the quality of the investigation team, the available intelligence and the surroundings where the offence has taken place, the selected non-suspects group itself forms an important, and from a certain perspective the main (f)actor, in the success of an intelligence-led DNA screening. Despite the scope and quality of the investigative efforts, the results of an intelligence-led DNA screening depend on the conduct of these non-suspects. Non-suspects, including the offender, can refuse to comply at all times. However, as long as the general willingness to cooperate is high, and thus the number of people refusing to cooperate low, an intelligence-led DNA screening can make an important contribution to the investigation, even when the offender has been selected but refuses to comply. Because the cooperation of non-suspects is so essential to the functioning and the results of intelligence-led DNA screenings, it is important that, regardless of the substantive choices made in this process, attention is paid to the detected questions and problem areas in relation to the organisation and enforcement of the legal framework.