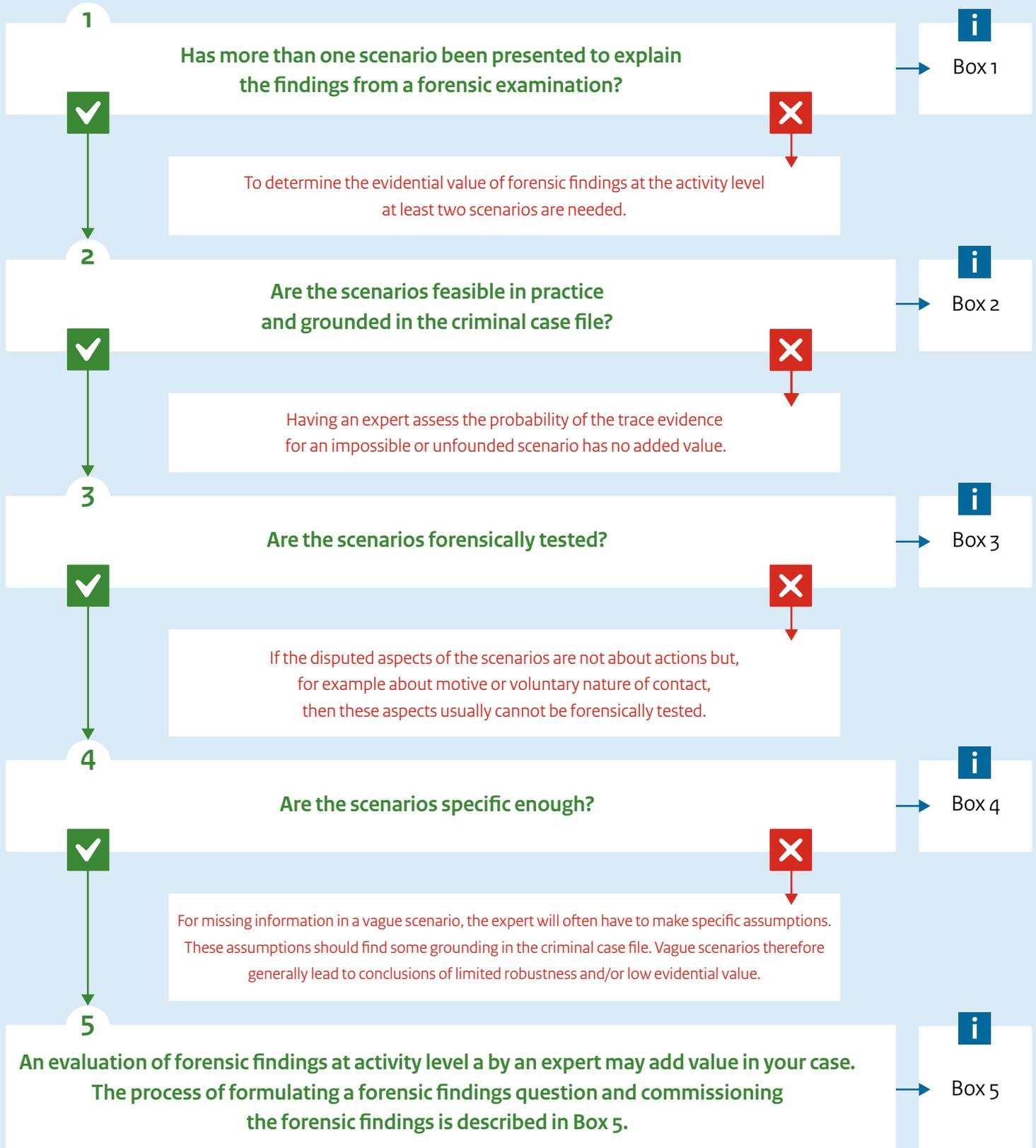




An activity-level evaluation by a forensic expert

Does it make sense? Can it be done? What does it take?

This scheme is intended to assist in making decisions about investigations given activity-level propositions. For questions about this scheme, or to discuss the case at hand, please contact the forensic advisers at the court, the forensic prosecutor or an intake coordinator at the NFI.





An activity-level evaluation by a forensic expert

Box 1 More than one scenario

Forensic investigations can serve different purposes at different times. At the beginning of a criminal investigation, forensic investigations will mainly contribute to identify persons and forming scenarios. At a later stage, forensic investigations will be more focused on further interpretation of scenarios or their testing.

Evaluating forensic findings at the activity level mainly takes place in the later phase. Here we place the results of an examination in the context of a criminal case. An expert assesses whether the results of an examination support one scenario to a certain extent more than another. This requires at least two scenarios.

Usually, these scenarios will be put forward by the prosecution and the defence. When one of the litigating parties does not put forward a scenario, an evaluation of the forensic findings by an expert often has no added value. It can then only be assessed how well the results of the examination fit the one scenario without being able to put it in perspective against another scenario. Therefore with only one scenario no evidential value can be reported. In exceptional cases, the suspect denies having committed the crime but has no idea how, for example, his DNA got on the crime scene or on the victim's clothes. In such cases, it is advisable to investigate whether there is a real chance of a legitimate transmission or contamination scenario in the case. The expert could provide further advice on ways to investigate this.

Role of stakeholder:

It is important that, in the context of truth-finding, the stakeholder also has an eye for plausible scenarios other than - or in addition to - scenarios put forward by the litigating parties. Upon request the expert can advise on this.



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Box 2 *A feasible scenario grounded in the criminal case file*

An expert evaluates results of an examination under propositions derived from scenarios that are relevant in the case. This means that the expert evaluates how likely the examination results are if one proposition is true, and how likely these results are if the other proposition is true. Such an evaluation is useful only if, in advance, both scenarios are to some extent plausible. That is, the actions mentioned in the scenarios are feasible in practice and have some leads in the criminal case file. An expert does not determine whether a scenario is plausible.

When clues to an alleged scenario are missing from the criminal case file, it is advisable to ask for details and then consider whether they can be verified or falsified. Consider, for example, (additional) hearing of witnesses or the extraction and reading of phone records. Consideration could also be given to having a video reconstruction done in which both the practical feasibility can be tested and detailed information on the acts performed can be obtained.

It is ultimately for the court to decide whether the scenario is considered plausible in advance.

If, in the opinion of the court, this is not met, then an evaluation of the examination results by the expert adds little or no value.



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Box 3 A forensically testable scenario 1/2

Forensically testable scenarios contain elements that can be further investigated by means of forensic examinations. Activity-level propositions are then derived from these scenarios. The propositions describe what specific acts were performed, the person who performed those acts and the time when those acts were performed. Between the two propositions, one or more of these aspects differ.

Forensically testable

An example of testable propositions is:

H1: The suspect stabbed the victim with a knife during the incident.

H2: Someone other than the suspect stabbed the victim with a knife during the incident.

If it is established that the victim was stabbed by one person, then the acts are mutually exclusive. After all, the victim was either stabbed by the suspect or by someone else. The findings of forensic investigation can be tested against this.

Another example is a report of a sexual offence, where the statements are:

H1: The accused penetrated the declarant's vagina with his fingers on the night of 2 to 3 May.

H2: There was no sexual contact between accused and declarant on the night of 2 to 3 May.

Here, it is disputed whether a sexual act was performed by the accused. Again, the described acts are mutually exclusive and the findings of the forensic examination may be informative as to the question of whether penetration did or did not take place.

Not forensically testable

It is also possible that the scenarios put forward by the parties involved may differ from each other but do not contain testable elements for the forensic investigation. Think of situations where the motivation behind the act is disputed. For example, it may be disputed whether the accused did or did not act in self-defence or whether or not there was consent to sexual contact. Such aspects of the scenarios cannot usually be assessed by a forensic expert. An evaluation of the examination results by an expert therefore has no added value. The expert can advise on the forensic testability of the scenarios.



An activity-level evaluation by a forensic expert

Box 3 forensically testable scenario 2/2

Does an activity-level evaluation make sense?

Even if scenarios are forensically testable that does not guarantee that the examination results will be distinctive between scenarios. Activity-level investigations can contribute in different ways to truth-finding:

- If investigations are distinctive with respect to the scenarios, they can contribute to convincing the judge regarding the truth of these scenarios.
- If investigations are not distinctive with respect to the scenarios, they may still provide further insight into the possibility of a particular scenario and thus also contribute to the decision in a criminal case.

Therefore, the expert cannot judge on the basis of expected evidential value alone (= measure of the distinctive character of the investigation) to assess whether the investigation is meaningful or not at the activity level.

A scenario formulated partly on the basis of forensic traces already examined will generally be able to reasonably explain the presence of these traces. The better the traces fit both scenarios the less distinctive they will be with respect to the scenarios. In other words, the smaller the distinctiveness of the traces, the lower the evidential value when evaluated at the activity level.



An activity-level evaluation by a forensic expert

Box 4 A specific scenario 1/2

A forensic scientist can only estimate the probability of the forensic findings if the scenarios presented are sufficiently concrete. Consider Who did What, With What, Where, When (how often) and in Which Way. Vague statements of “maybe I held that once”, “I think I met him once” or “I used to come there sometimes” are not specific enough for an activity-level evaluation and require further details such as:

- How often did you come there?
- What did you do there?
- When were you there last?
- etc.

To estimate the likelihood of finding traces at a location related to a person involved, the frequency, nature and time of contact is therefore relevant.

To conduct an evaluation of forensic findings, in addition to a set of concrete scenarios, also other uncontested information is important. The expert will always ask for this information if he does not already have it. Prior to an assignment (instruction) to the expert, it is therefore advisable to collect (or have collected) information relevant to the expert. Here lies a task for both the prosecution and the defence. An example of what information may be relevant for Forensic DNA research can be found in the document [‘Collecting information about the origin of DNA traces’](#).

Under the following circumstances, the expert is forced to make an assumption:

1. The information is uncertain

This occurs, among other things, when there are different versions about the circumstances of the offence. For example: when the victim makes several different statements about various aspects of the incident (e.g. the acts performed, the time or duration). The expert records the pre-agreed choices for these aspects in one or more assumptions.

Role of client:

Decide - in consultation with the parties involved - on what information and assumptions the expert can carry out the evaluation. To this end, invest in more certainty, e.g. through additional interrogations (victim, suspect, witnesses) to give more substance to the scenarios.



An activity-level evaluation by a forensic expert

Box 4 A specific scenario 2/2

2. The information is unknown

A well-known example is whether the perpetrator wore gloves. If the information is not known, the expert will have to make an assumption about it. Is there no basis, common knowledge or logical principle to make an assumption about this? Then it may be decided, in consultation with the client, to evaluate under different assumptions (e.g. The DNA results are considered on the one hand under the assumption that gloves were worn and on the other hand under the assumption that no gloves were worn). If missing information is crucial, this may be a reason not to go forward with the evaluation.

Role of client:

It is for the court to assess the validity of the assumption. If one or more assumptions are not reasonable, then that will potentially affect the usefulness of the expert's reported conclusion.



An activity-level evaluation by a forensic expert

Box 5 The forensic findings question and assignment 1/2

Usually, for an activity-level evaluation of forensic findings, the appointment of an expert by an investigative judge or public prosecutor is necessary. An exception to this is forensic human DNA research for which experts are registered in the Dutch Register of Judicial Experts (NRGD) (See register '001.3 Human DNA Analysis and Interpretation - Activity Level'). This registration provides the Public Prosecution Service with the legal possibility to issue a request for an examination and evaluation of the findings by the registered expert.

In all cases, it is advisable to involve the defence at an early stage. After all, an important part of the information relevant for the evaluation will have to be provided by the defence.

The following is a roadmap for arriving at an activity-level research assignment:

Forensic findings

1. When the steps in the decision scheme have been completed and an activity-level investigation is being considered, it is advisable to consult an expert. This can be done by phone or in writing but preferably during a forensic intake meeting with all stakeholders.
2. The case prosecutor, prior to ordering an activity-level DNA evaluation, must coordinate this with the local forensic prosecutor.
3. Between the stakeholders, further coordination can take place on:
 - The wording of propositions and scenarios.
 - Available information and necessary assumptions.
 - The feasibility of the request.
 - Whether the investigation is monodisciplinary or whether an interdisciplinary forensic investigation is needed. More information on this type of investigation can be found in the Subject Annex IDFO
 - The rules regarding communication with police, public prosecutor, internal or external experts, etc.
 - The required vs available capacity for the relevant investigations. Such investigations are usually complex and require a lot of capacity, this reduces the national capacity for forensic investigations.
 - The desired delivery time of the report.



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Box 5 The forensic findings question and assignment 2/2

If necessary, a written advise on the matter may be issued prior to such a consultation.

4. The client decides whether answering the investigation question can be assigned to one or more forensic disciplines. In the latter case, the client may turn to an expert for interdisciplinary forensic investigations. If in doubt about this, a consultation with such an expert can be requested.
5. The expert structures the information and from it draws up (testable) propositions. In addition using the context information, the expert formulates the uncontested information ('facts') and assumptions. This information is then submitted to the client.
6. The client reviews the proposed propositions and assumptions and decides whether the activity level forensic findingsevaluation will be requested.

If requested:

1. Preferably, the activity-level evaluation is reported by an expert other than the expert who has been involved in structuring the relevant information and the drafting the propositions (this is to minimise risks of cognitive bias).
2. On average, gathering information and writing the report takes several months. In consultation with the expert, the desired delivery time is agreed upon.