



Brussels, Belgium, April 9th, 2018

WG 1 Meeting – Analytical Strand, Meeting Minutes

1) Welcome and outline for WG 1 meeting given by Martina Marchetti-Deschmann (MMD):

MMD welcomes everybody and invites the participants to take a look on the WG1 report for 2017, which is available on the MULTI-FORESEE website.

MMD also quickly wraps up the status on the RRS:

In Poland it was agreed that the RRS has to be repeated because data were not as conclusive as intended. Yet, WG1 now know-how on available technologies, knows about competencies of participating groups, and consolidated academic views and end-users anticipations.

It was agreed that sample preparation had some faults and improvements can be made.

It was agreed that for the second RRS samples will be prepared by two end-users, who also prepare a survey describing the overall goals for the samples.

The group agreed upon the following general, yet important things:

- (A) Everyone who handles samples has to provide information on the questions asked
- (B) Two deadlines have to be met (exception: labs who use Beamlines for analysis, Beamtime has to be booked as soon as possible)
 - a. May 2018 - data have to be produced in a relevant time-frame (usually answers to authorities have to be given within 3-4 months)
These data will be presented in Sheffield at the next WG meeting (July 2, 2018)
 - b. September 2018 – more sophisticated sample preparation strategies/methods/data evaluation strategies can be tested to generate results providing information beyond the requested one
Any improvement is important
These data will be presented in Dubrovnik at the next MULTI-Foresee conference (Nov 4-8, 2018)
- (C) For Reporting a form has to be filled completely, so it is easy to follow the reasoning behind presented conclusions, providing also information why questions were not answered or some experiments were not carried out.
Reports have to include representative Figures with explanations (in text and Figure captions) and have to be sent to one person (details see below for respective RRS).

Information on activities and dates was given during this WG1 meeting:

- STSM applications
- Focusgroups on Forensics Science at IMSC (<https://www.imss.nl/imsf-focus-groups.html>) as a platform for future networking (beyond the COST action itself)
- workshop & sessions at IMSC for MS in Forensics (<http://www.imsc2018.it/workshops.php>, http://www.imsc2018.it/images/imsc_2018_program_at_glance.pdf)
- upcoming MULTI-FORESEE conference in Dubrovnik

2) Questioned Documents, presented by Ana Assis (AA):

The first sample is a document prepared by AA. Detailed information see also Annex, a pdf of the presentation given by AA is available.

In brief:

This is a simulation based on a real case. The names, addresses, locals, signatures and dates on the document are fictional.

The attached lease agreement was submitted for forensic examination by the court of Lisbon (Portugal). The owner of the building/first granter ('Senhorio'/'Primeiro Outorgante') is questioning the authenticity of the document content. The owner said that the original lease agreement he signed contained an annual income of the building of **€ 20.000,00** and not **€ 14.400,00**. *The remaining content of the document is not relevant for the purpose of this exercise.*

It's important to refer that a review of the original document which was set up and deposited with a notary is not possible because all paperwork at the notary's office was destroyed by fire.

It is questioned if the lease agreement was manipulated, and in affirmative answer, how.

Questions to be answered:

- Which printing technique has been used to produce the three pages?
- Do the three pages have been produced with the same printer?
- Do the three pages have the same paper? (Tips from AA: gram per page? thickness? ...)
- Do the three pages have been originally attached to each other? (Tips from AA: microscopy, staples,...)
- Do the signatures and headings have been produced with the same ink?
- Do the signatures and heading have been produced on the same date?

It was pointed out, that every available technology can be used.

Any information leading to a conclusion shall be gathered (chemical info, spectral info, mass spec,).

The document can be destroyed in the process (cut, use of destructive imaging technologies).

Samples were provided as stated in the Excel Sheet (see Annex).

Deadline 1 – May 31st, 2018; Reporting to MMD using template

Deadline 2 – September 30th, 2018; Reporting to MMD using template

3) Fingerprint Analysis, presented by Michal Levin-Elad (MLE):

The second sample are fingerprints prepared by MLE. Detailed information see also Annex, a pdf of the presentation given by MLE is available (slide 4 adapted for distribution).

In brief:

An envelope which contains 4 samples each with their unique code is provided :

- A fingerprint developed with ninhydrin on a white notepad paper
- A latent fingerprint on a white notepad paper
- A fingerprint developed with Indanedione-Zn on a red envelope paper.
- A latent fingerprint on a red envelope paper.

This envelope also contains

- A copy of the questionnaire
- 2 cm scale (for photography)

Questions to be answered:

- Increase the information content for the provided fingerprint
- Which method was used to enhance or develop the sample

- Was the method successful
- Document the result in an image (*.jpg ideally) including the scale (or any scale you can include in your image)

All participants are asked to sign a confidentiality agreement because fingerprints of people working in the police department were used.

All envelopes are marked with a number identifying the donor for later evaluation of results.

Samples are labelled according to slide 3 of the provided presentation, include this information in the results.

It was pointed out, that every available technology can be used.

Any fingerprint enhancement is helpful.

Every improvement is important – any information beyond rich fingerprint pattern can be reported – the decision is in the hand of the participant (e.g. drugs, coffee, ...)

Only one set of samples is provided (some exceptions made) – one has to make a decision on which method to use.

Samples were provided as stated in the Excel Sheet (see Annex).

Deadline 1 – May 31st, 2018; Reporting to MLE using template

Deadline 2 – September 30th, 2018; Reporting to MLE using template

4) Paper RRS, i.e. theoretical RRS

MMD presents a table included in the report for the first year of the COST action listing everyone who filled in the Excel sheet asking for capabilities in the lab for evidence analysis and references documenting these capabilities.

MMD asks the group what to do with these findings. In a brief discussion it was found out that

- many participants did not fill the Excel sheet because the greater meaning of this provided information was not clear,
- information can be used for an online platform that includes hyperlinks to papers and publications of COST members doing imaging analysis in the context of Forensics,
- the information can be made publicly available for everyone (also people outside of this COST action) to look for potential contacts, e.g. on website of MULTI-FORESEE
- the best way to use this data is a publication (e.g. White Paper)

Based on this it was decided that the Excel sheet will be made available on a cloud-based platform (Owncloud, TU Wien, MMD, secured data storage) and all WG1 members will check the information they have already provided or upload their respective competencies if no information is available. It was pointed out that not everyone has his/her work published, but these groups should not be excluded from this theoretical study.

The group came to an agreement that if all work together the workload for single members is not too much and a white paper can be published by the end of this year (ideally before the next conference). First information gathered by persons assigned to topics (see later) will be discussed in Sheffield (Interim Report), and summer months will be used to write respective parts of the paper.

A tentative title was suggested:

“Potentials in Europe for using imaging technologies in Forensics”

The structure of the manuscript will be based on the evidence (topics of sections in manuscript) and not the technology used. The concept of imaging in connection to the evidence has to be the focus of the manuscript. Persons assigned to topics will contact WG members and ask for contributions.

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The following Journal options were discussed:

Science & Justice
Forensics Science International
Forensics Chemistry

It was agreed to aim for Forensics Chemistry because manuscripts are handled fast and this is the Journal with the highest relevance for the topic.

Persons responsible for topics were assigned:

Toners	– Ivo, Iwona
Fibres, Paint	– Jaap
Gunshot Residues, Explosives	– Romolo
Bioweapons	– Martina
Hair	– Eva
Body Fluids	– Melanie
Fingermarks	– the group agreed on asking Simona for this contribution

Topics like “chemical weapons” and “drugs” still need a person who is willing to take over the lead for this part of the paper.

If every section is not more than 1 – 1.5 pages this White Paper will be 9-12 pages long and will make a significant statement in the community.

5) Decision Tree Flowchart:

After a brief discussion the group agreed that it is at the moment not possible to generate a Decision Tree Flow Chart providing a simple way to pick the correct technologies to get the most out of an evidence. A very important task for this COST actions future work will be to define potential technologies for certain technologies but the validation of these technologies will very likely be beyond the scope of this COST action.

However, the groups strongly believes that this COST action will be able to define new imaging technologies which can enter the validation phase at the end of the activities.

The meeting ended at 16.30.

Vienna,
April 16th, 2018



Martina Marchetti-Deschmann
(WG1 Chair)