Co-funded by the Prevention of and Fight against Crime Programme of the European Union

"RESPONSE" project Steering Committee Meeting combined by dissemination activities at the EAFS-2015 meeting, Prague, 6th-11th September 2015			
DOCUMENT TYPE :	Minutes	ISSUE DATE	03/10/2015

1. Welcome, discussion and acceptance of agenda – S. Klemenc and all

Meeting took place in Corinthia hotel in Prague, at 8th September from 11 a.m. to 13 p.m. Ms Klemenc welcomed participants and asked for amendments to the proposed agenda. None was proposed. Agenda was accepted.

Participants list:
N. Meert (INCC, Belgium)
M. Johannsen (IFM, Aarhus University, Denmark)
L. Ask Reitzel (University Copenhagen Denmark)
L. Dujourdy (INPS, France)
A. Stemmelen (INPS, France - invited by SK)
T. Csesztregi (HIFS, Hungary)
S. Klemenc (MoI, NFL, Slovenia)

2. Project progress monitoring (WP action list checked, intermediate evaluation, adjustments, future activities - (all)

Outcome:

WS	Work stream description	Status/conclusions/evaluation
WS0:	Management and coordination activities	tasks planned so far, timely completed and records available
WS1:	State of the art and procurement • activity 1.1 (M6-M9) - new equipment in NFL, installed, validated and staff trained activity • 1.2 CRM materials (M1-M24) – activity • 1.3 net-NPS(M1-M24) - purchasing • 1.4 (M1-M24) – other purchases	activities planned so far, timely completed and records available; - Activity 1.1 (closed) - (records available) - 1.2 running around 40/ compounds from Chiron purchased/ records available; - 1.3 running - around 70 purchased; (records available) - 1.4 Done or running
WS2	Profiling methodology and competencies • activity 2.1 (M1-M3) - SI tem visit to Lyon for heroin profiling • activity 2.2 (M3-M10) - development of experimental methodology (heroin) in SI • activity 2.6 – 1st Profiling workshop in Ljubljana June 2015 –	- activity 2.1 timely completed; practical exercising of experts successful, creation of databases tool in SI still remains opened - 2.2 currently running (one moth of delay is expected) - 2.6 timely completed; evaluation from attendees: excellent

WS3:	Chemical characterizations (M1-M24)	- running, characterizations in NFL timely completed (records available) - NMR structure conformation/ elucidation too slow (no results from July to September / P. Manager acted – urged/ because this slow down the reporting significantly and proactive component of the project is endangered
WS 4	NPS FTIR and MS databases [M13-M24]	- Activities (development of IR database, searchable IR libraries, guidelines) running on timely manner, MS spectra exchange accordingly in line with plans

3. Discussion on sample acquisition, purchases, exchange, analytical procedures (all)

a) Recent developments and challenges concerning the net-NPS purchasing have been discussed.

b) Concerning the analytical procedures: the idea to "upgrade" NMR measurements to q-NMR or to employ elemental analysis in addition to NMR (for checking net-NPS purity as a quality criteria of the IR result) has been explained and discussed in June 2015 in Ljubljana (Mr. Csesztregi (HU), Mr. Košmrlj (SI2) and Ms Klemenc (SI1)). However, the Slovenian partner FKTT (SI2) who has instrumental resources is currently obviously not able (see point 1, WS3) to take over additional tasks.

Conclusions/ outcome:

a)

- I was agreed that partners will enhance information and samples exchange of novel NPS detected. /responsible all/
- It was agreed that Denmark laboratory (Copenhagen), who developed the strategy for searching novel NPS over internet will send information on detected NPS to Slovenian NFL, which will then try to find appropriate internet vendor and purchase samples net-NPS. Other partners can participate on the same manner or also by sending some novel - NET samples collected/seized to NFL to be included into "material data bank".
- NFL has to enhance the purchasing velocity of CRM materials within the forthcoming months, because the public procurement procedures are quite time consuming;
- it was agreed that each partner will send a wish list of 10 CRMs (if appropriate with data on vendor) to be purchased from the RESPONSE project budget (newly appearing CRMs are the target materials, but list is not strictly limited to these).
- Enhanced cooperation (knowledge, information and samples exchange) with SPICE2 project is planned (on non formal level).

b)

At the moment quantification of net-NPS active ingredients by means of q-NMR or elemental analysis is obviously not possible /see point 2. WS 3/, despite the fact that Mr. Csesztregi provided description of measurement procedure, test amounts of two internal standards and excel worksheet for calculations (for q-NMR). Along Mr. Košmrlj, elemental analysis could be preferred and less time consuming option, however the tasks planned in the frame of the project (NMR structure conformation/ elucidation/ are the highest priority.

4. Dissemination activities (all)

a) Activities taken so far (M1 – M9) can be *evaluated* as very good. Short summary of main deliverables:

Event/deliverable type	Where – when	description	comments
Training	INPS-Lyon, France March 2015	exchange of knowledge, skills and good practice and profiling methodology development on the expert exchanged basis (3SI experts in Lyon) (FR/SI)	Records available
Oral/poster presentations	ENFSI DWG meeting, Dublin; Ireland, May 2015 (around 80 participants from all over the world)	Abstracts and oral (2), poster (1) presentations + 2x info included into oral presentations given of DWG subcommittees (profiling and databases)	records available
Oral presentation	EMCDDA, Lisbona, Portugal, June 2015 (No: attendes 66)	Oral (1) at 15th Annual meeting of the Reitox Early-warning system network	Records available
Report for EMCDDA and EUROPOL	March, 2015	1 x (not public opened)	Record available
Workshop on profiling/	NFL, Ljubljana, Slovenia June 2015 (18 trainees and 5 trainers)	Knowledge, competencies, skills and tools: Training & training materials, presentations, tool for sample comparison	Records available/ evaluation from attendees: excellent
RESPONSE project web page	"Drugs monographs« at http://www.policija.si/eng/index.php/generalpolicedirectorate/1669 ; lunched in August 2015	Interactive, searchable table with NPS analytical reports and related chemical data /knowledge and data/	Records are added continuously
Reporting forms EMCDDA/ EUROPOL	NFL, Sent in the frame of SI EWS sistem (January-September, 2015) (M1-M9)	Reports (through REITOX and/or ENU networks) + analytical reports on newly detected NPS (seized, collected, purchased), where applicable and raw analytical data	Records available – continuous activity
Reports on "anonymously" tested samples	NFL, Ljubljana, Slovenia (M1-M9)	Rising awareness: Analytical reports on active ingredients (NPS) collected by NGOs from anonymous users	Records available - continuous activity
Poster presentations	EAFS 2015 meeting; Prague No of attendees >1000	Abstracts and 3 x posters	Records available
Shared – "identification reference materials"	April, 2015	The first set of newly detected NPS samples was offered and delivered to interested project partners (April-July 2015).	Records available
Shared MS and FTIR raw data	April, 2015	first sets of MS and FTIR spectra have been delivered to database managers and implemented into libraries	Records available
NPS materials shared with SPICE-	August, 2015	cannabinoids-pure forms, herbal prepararations and C-liquids - around 40	Records available

profiling project (BKA, Germany)		samples	

b) Dissemination planing

Dessimination activities	Comments and responsible
Active participation at the next DWG meeting, 2016 (see point 5)/ oral poster presentations scientific [M17]	all
Draft versions (for comments from DWG) of two planned FTIR documents [M17]	/HU and BE/
Organization of 2nd profiling workshop [M18] see point 6 for details	FR/SI
Further exchange of MS and FTIR data and implementation into libraries	SI/HR/DK
Ms Ask Reitzel proposed writing of an article for Forensic Science International with regard to the experiences obtained from internet purchasing, where the rate of false advertised products pose serious risk for NPS users [time frame not defined – see comments]	The proposal will be considered further (SI/DK1 and other)
Continuation of some permanent dissemination activities	SI and all
Share identification reference materials from internet purchases by partners	SI

5. Planning of the ENFSI DWG 2016 – meeting May (May 10 to May 12, 2016) combined by the RESPONSE project SC final meeting (Bled, Slovenia, May 8th-13th, 2016) (all)

Info: In the frame of the "RESPONSE" project EU-grant *(Prevention of and fight against crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413)) financial support for the* accommodation and partial reimbursement of travel costs for 28 attendees from EU member states ENFSI DWG members will be offered. (RESPONSE project steering committee and NFL staff members are excluded from this number)**.** Details will be outlined on the meeting web page.

Plan:

Event/activity	Dates /responsibles
RESPONSE project SC meeting	Monday, May 9th, from 9 p.m. to 17 p.m; and optionally additional one – at May 12 afternoon or May 13 morning) - all
ENFSI DWG meeting & RESPONSE project dissemination activities	May 10 to May 12, 2016 (working days) – all
Communications with ENFSI DWG steering committee and program subcommittee, drafting program, abstracts collection, dissemination of all relevant meeting information	Klemenc/activity running [M8-M18]
Meeting web page (materials for web prepared – page currently under construction), forms: registration, abstract submission, meeting evaluation.	Klemenc/ativity running [M8-M18]
Early registration	until February 19th, 2016
Late registration	after February 19th, 2016
Abstract submission	until February 19th, 2016
"technical" issues in Bled, Slovenia: meeting rooms, accommodation, meeting attendance certificates, final financial statement etc.	NFL staff and Albatros agency – activities running [M4-M20] local organizing committee: responsibles: Klemenc, Gostič, Benčina, Godeša/

6. Planning of the 2nd profiling workshop, Ljubljana 2016 (L. Dujourdy and S. Klemenc)

Outcome:

- Workshop is tentatively scheduled within the last two weeks of June, 2016
- registration deadline /will be defined/
- duration of the workshop (tentatively planned for a day longer than the previous one)
- Registration deadline: April 8th, 2016

Activities/Responsibilities:

Activity	responsible
check the availability of trainers from INPS, France and two from Lausanne University, Switzerland	Dujourdy [as soon as possible]
check the availability of the trainer from INCC, Belgium	Meert [as soon as possible]
Define workshop exact dates	FR/SI/BE
send out invitation and preliminary information	Besacier [as soon as possible]/Klemenc
Final program - detailed	Trainers [FR/BE/CH]/ Besacier
Registration process, technical logistic	SI /Klemenc/NFL staff/

Note: Meeting is opened for all ENFSI-DWG members, however only participants [up to 15, domestic (SI) are excluded from this number] from EU member states are eligible for the support from the RESPONSE project budget.

7. Planning of heroin profiling training in Ljubljana and planning the cocaine profiling training visit in Lyon

Ms Klemenc explained some not foreseen and unexpected difficulties concerning analytical method development and validation in NFL laboratory. Therefore, the heroin training & evaluation planned for week 44 was postponed to week 47.

Plan (dates, activities, personal involved):

a) Heroin

Activity	Time frame/ responsibles
heroin methodology training and statistical evaluation, in Ljubljana (5 days)	**at week 47**, 2015 (2 FR experts: Dujourdy and Charvoz in Ljubljana and NFL staff Janežič, Benčina, Gostič, Koren)
respond to Ms Dujourdy`s questionnaire received at	NFL staff (Benčina, Janežič) shall send together with other info about the current status of method development /ASAP/
detailed daily working plan shall be agreed between two parties	/FR/SI/ before the training & evaluation start (at latest at week 46, 2015).

b) Cocaine

- January/February 2016, 2 SI experts (training in Lyon) – exact dates will be defined latter on in Ljubljana (at week 47)

8. Networking with other projects and labs (as for example, CLEAN2SAND, Spice-profiling and I-SEE (S. Klemenc and all)

RESPONSE project is opened for networking (information, knowledge and samples exchange). Good communication has already been established by projects listed above.

9. Administrative issues

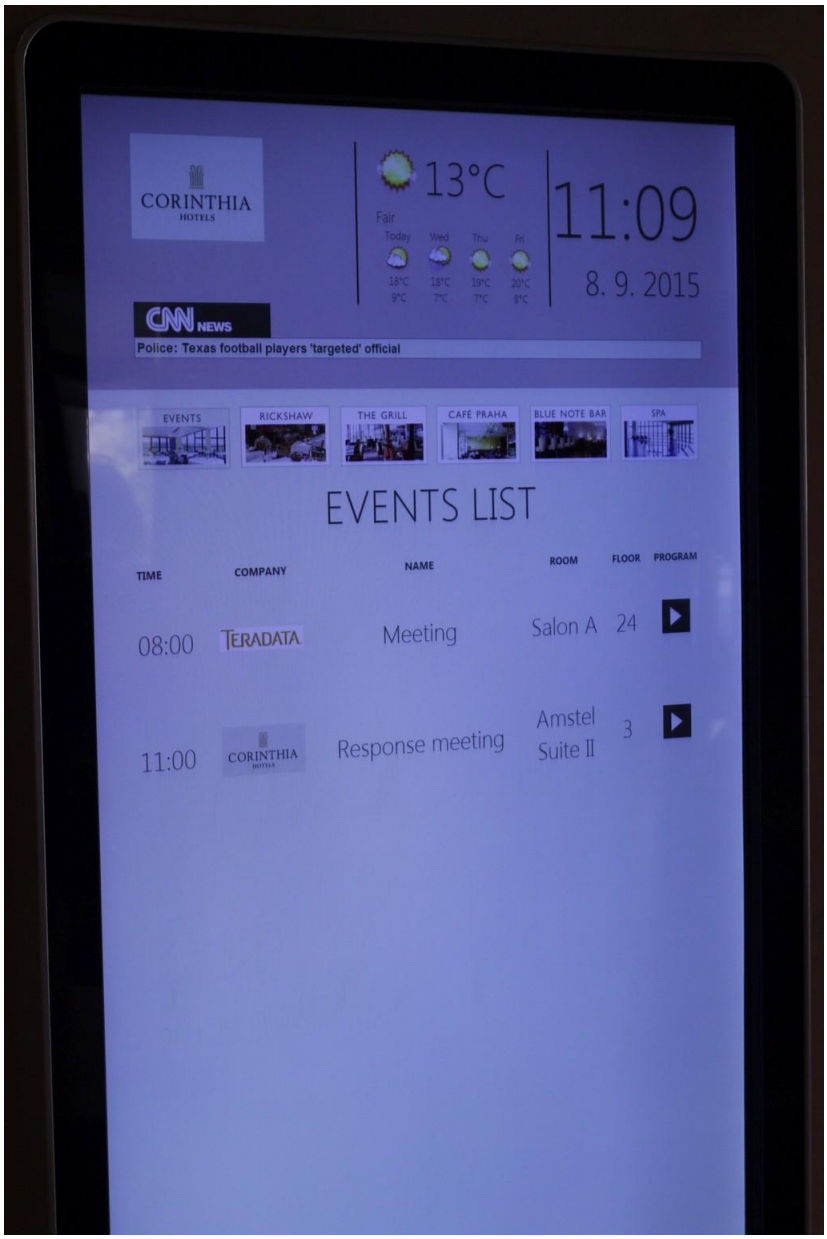
Ms Klemenc asked and reminded SC members to send reimbursement requests regularly (still missing some from already closed activities)! Please send reimbursement requests to Ms Lili Šipec: lili.sipec@gov.si and Ms Melita Godeša: melita.godesa@gov.si, first by e-mail and after the approval originals by post mail.

10. Any other business
None.

Meeting was closed at 13 p.m.

Report prepared by:
Dr. Sonja Klemenc
PROJECT MANAGER

See some pictures bellow.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Response meeting
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Steering committee meeting (photographer Tamas Csesztregi is missing on the picture)


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FACULTY OF HEALTH AND MEDICAL SCIENCES
UNIVERSITY OF COPENHAGEN
A systematical methodology for finding novel NPS (New Psychoactive Substances) over the Internet
Lotte Ask Reitzel[1], Nathalie Kahrle Atterlord[1], Sonja Klemenc[2] Petur Weihe Dalsgaard[1], Niels Bjerre Holm[1], Irene Breum Müller[1], Kristian Linnet[1]
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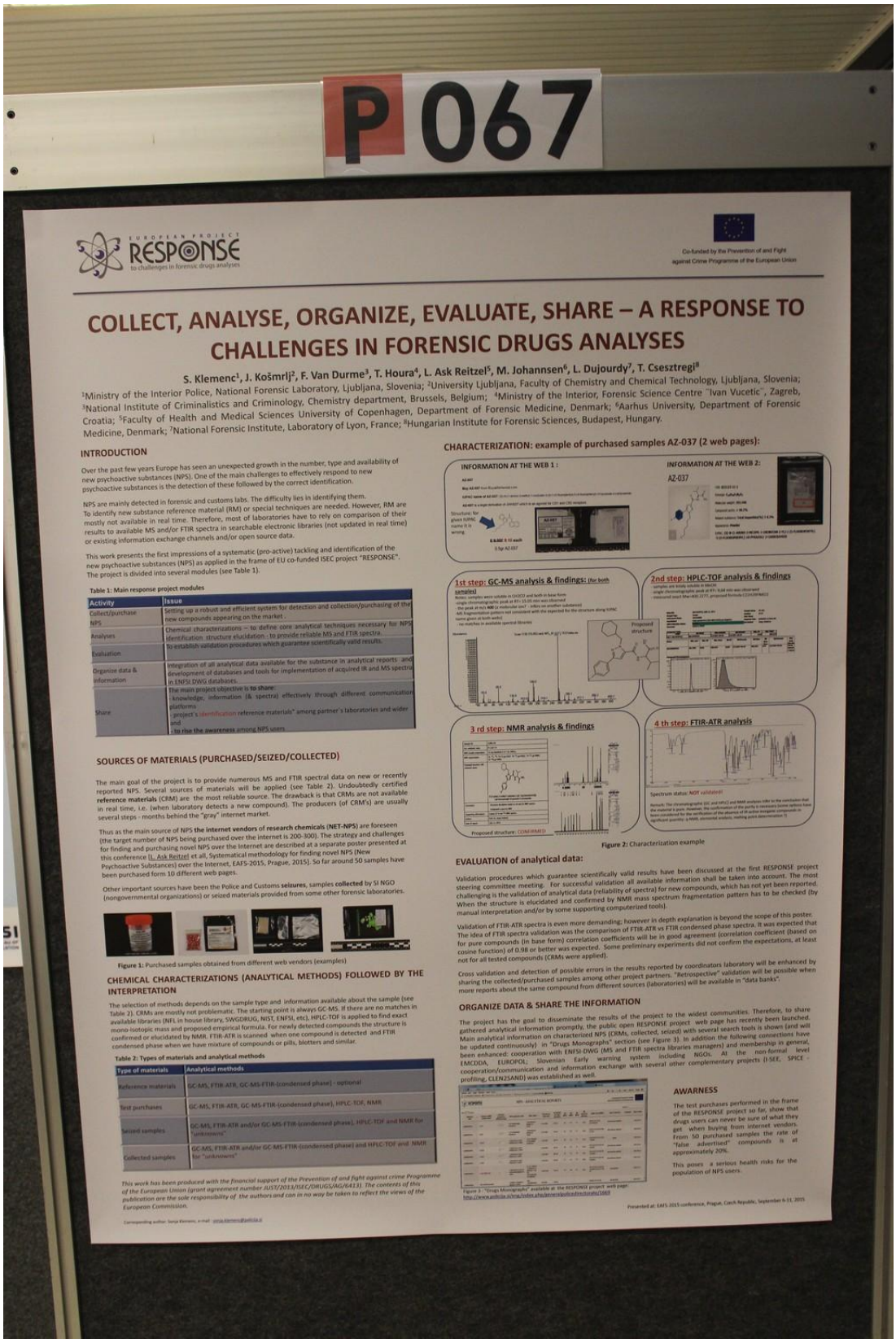
[2] Ministry of the Interior, National Forensic Laboratory, Vodovodna 95, 1000 Ljubljana, Slovenia
Introduction
Method
Figure 1. A flow chart over the systematical approach for finding NPS on internet.
Implementation in Forensic Toxicology
Methamnetamine (N-methyl-PAL-287) thread
ISEC project "RESPONSE"
Conclusion



COLLECT, ANALYSE, ORGANIZE, EVALUATE, SHARE – A RESPONSE TO CHALLENGES IN FORENSIC DRUGS ANALYSES

S. Klemenc[1], J. Košmrlj[2], F. Van Durme[3], T. Houra[4], L. Ask Reitzel[5], M. Johannsen[6], L. Dujourdy[7], T. Cseszregi[8]

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INTRODUCTION

Over the past few years Europe has seen an unexpected growth in the number, type and availability of new psychoactive substances (NPS). One of the main challenges to effectively respond to new psychoactive substances is the detection of these followed by the correct identification.

NPS are mainly detected in forensic and customs labs. The difficulty lies in identifying them. To identify new substance reference material (RM) or special techniques are needed. However, RM are mostly not available in real time. Therefore, most of laboratories have to rely on comparison of their results to available MS and/or FTIR spectra in searchable electronic libraries (not updated in real time) or existing information exchange channels and/or open source data.

This work presents the first impressions of a systematic (pro-active) tackling and identification of the new psychoactive substances (NPS) as applied in the frame of EU co-funded ISEC project "RESPONSE". The project is divided into several modules (see Table 1).

Table 1: Main response project modules

Activity	Issue
Collect/purchase NPS	Setting up a robust and efficient system for detection and collection/purchasing of the new compounds appearing on the market .
Analyses	Chemical characterizations – to define core analytical techniques necessary for NPS identification structure elucidation - to provide reliable MS and FTIR spectra. To establish validation procedures which guarantee scientifically valid results.
Evaluation	
Organize data & information	Integration of all analytical data available for the substance in analytical reports and development of databases and tools for implementation of acquired IR and MS spectra in ENFSI DWG databases.
Share	The main project objective is **to share**: - knowledge, information (& spectra) effectively through different communication platforms - project's identification reference materials" among partner's laboratories and wider and - **to rise the awareness** among NPS users

SOURCES OF MATERIALS (PURCHASED/SEIZED/COLLECTED)

The main goal of the project is to provide numerous MS and FTIR spectral data on new or recently reported NPS. Several sources of materials will be applied (see Table 2). Undoubtedly certified **reference materials** (CRM) are the most reliable source. The drawback is that CRMs are not available in real time, i.e. (when laboratory detects a new compound). The producers (of CRM's) are usually several steps - months behind the "gray" internet market.

Thus as the main source of NPS **the internet vendors of research chemicals (NET-NPS)** are foreseen (the target number of NPS being purchased over the internet is 200-300). The strategy and challenges for finding and purchasing novel NPS over the Internet are described at a separate poster presented at this conference (L. Ask Reitzel et all, Systematical methodology for finding novel NPS (New Psychoactive Substances) over the Internet, EAFS-2015, Prague, 2015). So far around 50 samples have been purchased form 10 different web pages.

Other important sources have been the Police and Customs **seizures**, samples **collected** by SI NGO (nongovernmental organizations) or seized materials provided from some other forensic laboratories.

Figure 1: Purchased samples obtained from different web vendors (examples)

CHEMICAL CHARACTERIZATIONS (ANALYTICAL METHODS) FOLLOWED BY THE INTERPRETATION

The selection of methods depends on the sample type and information available about the sample (see Table 2). CRMs are mostly not problematic. The starting point is always GC-MS. If there are no matches in available libraries (NFL in house library, SWGDRUG, NIST, ENFSI, etc), HPLC-TOF is applied to find exact mono-isotopic mass and proposed empirical formula. For newly detected compounds the structure is confirmed or elucidated by NMR. FTIR-ATR is scanned when one compound is detected and FTIR condensed phase when we have mixture of compounds or pills, blotters and similar.

Table 2: Types of materials and analytical methods

Type of materials	Analytical methods
Reference materials	GC-MS, FTIR-ATR, GC-MS-FTIR-(condensed phase) - optional
Test purchases	GC-MS, FTIR-ATR, GC-MS-FTIR-(condensed phase), HPLC-TOF, NMR
Seized samples	GC-MS, FTIR-ATR and/or GC-MS-FTIR-(condensed phase), HPLC-TOF and NMR for "unknowns"
Collected samples	GC-MS, FTIR-ATR and/or GC-MS-FTIR-(condensed phase) and HPLC-TOF and NMR for "unknowns"

This work has been produced with the financial support of the Prevention of and fight against crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413). The contents of this publication are the sole responsibility of the authors and can in no way be taken to reflect the views of the European Commission.

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CHARACTERIZATION: example of purchased samples AZ-037 (2 web pages):

Figure 2: Characterization example

EVALUATION of analytical data:

Validation procedures which guarantee scientifically valid results have been discussed at the first RESPONSE project steering committee meeting. For successful validation all available information shall be taken into account. The most challenging is the validation of analytical data (reliability of spectra) for new compounds, which has not yet been reported. When the structure is elucidated and confirmed by NMR mass spectrum fragmentation pattern has to be checked (by manual interpretation and/or by some supporting computerized tools).

Validation of FTIR-ATR spectra is even more demanding; however in depth explanation is beyond the scope of this poster. The idea of FTIR spectra validation was the comparison of FTIR-ATR vs FTIR condensed phase spectra. It was expected that for pure compounds (in base form) correlation coefficients will be in good agreement (correlation coefficient (based on cosine function) of 0.98 or better was expected. Some preliminary experiments did not confirm the expectations, at least not for all tested compounds (CRMs were applied).

Cross validation and detection of possible errors in the results reported by coordinators laboratory will be enhanced by sharing the collected/purchased samples among other project partners. "Retrospective" validation will be possible when more reports about the same compound from different sources (laboratories) will be available in "data banks".

ORGANIZE DATA & SHARE THE INFORMATION

The project has the goal to disseminate the results of the project to the widest communities. Therefore, to share gathered analytical information promptly, the public open RESPONSE project web page has recently been launched. Main analytical information on characterized NPS (CRMs, collected, seized) with several search tools is shown (and will be updated continuously) in "Drugs Monographs" section (see Figure 3). In addition the following connections have been enhanced: cooperation with ENFSI-DWG (MS and FTIR spectra libraries managers) and membership in general, EMCDDA, EUROPOL; Slovenian Early warning system including NGOs. At the non-formal level cooperation/communication and information exchange with several other complementary projects (I-SEE, SPICE - profiling, CLEN2SAND) was established as well.

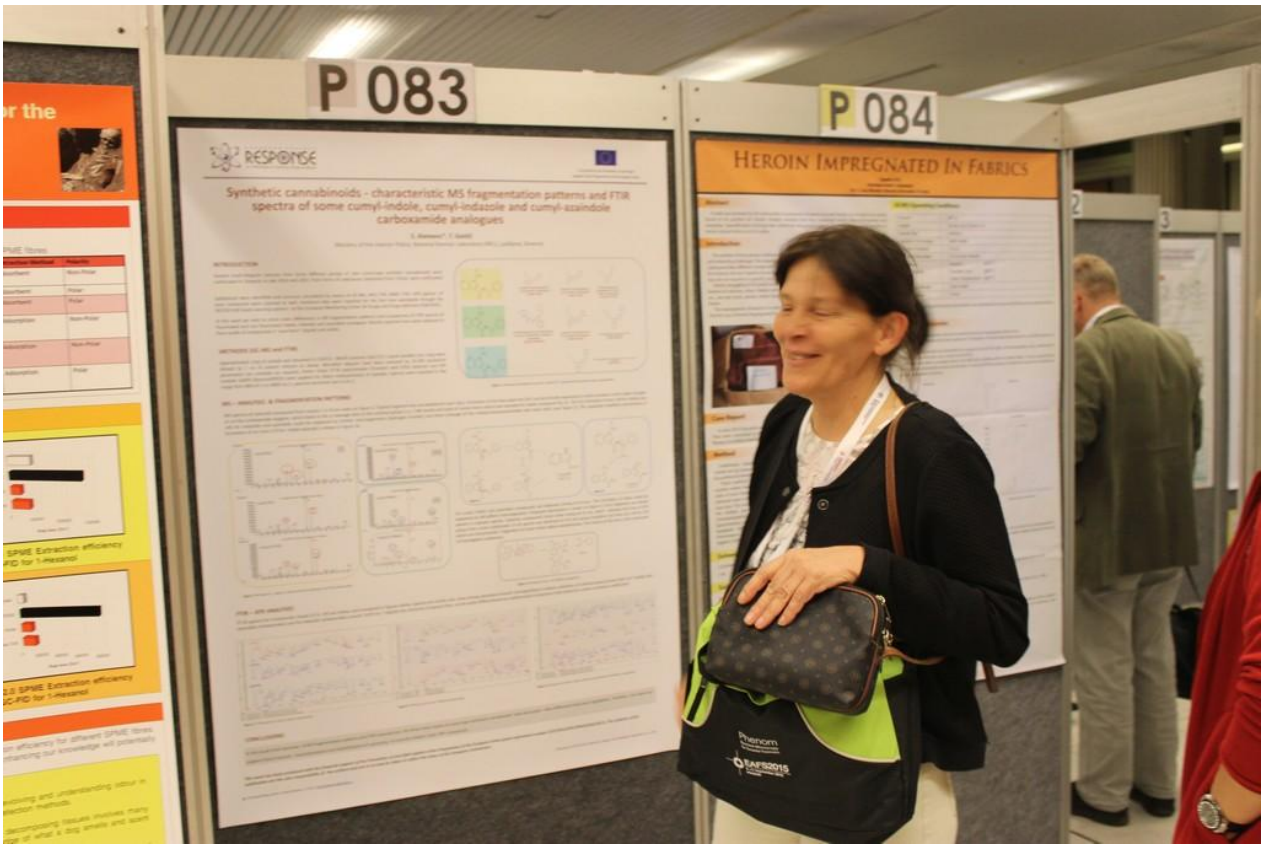
Figure 3 - "Drugs Monographs" available at the RESPONSE project web page: http://www.policija.si/eng/index.php/projects/responsedrugsmonographs/1069

AWARNESS

The test purchases performed in the frame of the RESPONSE project so far, show that drugs users can never be sure of what they get when buying from internet vendors. From 50 purchased samples the rate of "false advertised" compounds is at approximately 20%.

This poses a serious health risks for the population of NPS users.

Presented at: EAFS-2015 conference, Prague, Czech Republic, September 6-11, 2015.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RESPONSE
Synthetic cannabinoids - characteristic MS fragmentation patterns and FTIR spectra of some cumyl-indole, cumyl-indazole and cumyl-azaindole carboxamide analogues
HEROIN IMPREGNATED IN FABRICS