

# Water Framework Directive River Basin Specific Pollutants 10./11.6.2010 Stresa, Italy



**A JRC IES – NORMAN Initiative in support to  
the Water Framework Directive**



**implementation**

# NORMAN Network (former EU-funded FP6 project)

- Network among national reference laboratories, research centres and associated organisations for monitoring of emerging environmental contaminants

## Mission:

- Encourage more rapid and wide-scope exchange of information
- Improve data quality and comparability
- Ensure that knowledge is maintained and developed (synergies with activities funded at the national level)



## Since 2009 the NORMAN network is established as a non-profit association

- 8 Founding members and 45 members in 2010
- Focus on synergies with the various activities funded at the national level in the field of EP
- Strong link with DG ENV (WFD CIS WG-E )

## Collaboration between:

**EC Joint Research Centre – Institute for  
Environment and Sustainability – Rural Water and  
Ecosystem Resources Unit**

and

**NORMAN – Network for Emerging Pollutants**



Collaboration between:



**JRC IES – NORMAN Collaboration Agreement  
Has been signed today !**

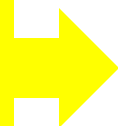
EC Joint Research Centre Institute for  
Environment and Sustainability Water and  
Ecosystem Resources Unit

and

**NORMAN – Network for Emerging Pollutants**



## WFD River Basin Specific Pollutants



## Main critical issues:

- Discharged in significant quantities: what do we mean by that?
- What are the relevant substances? “Well known” substances vs less investigated?
  - Lack of data, limited analytical performance, limited knowledge of the effects (high uncertainty factors), etc:
  - Limitation of the risk assessment methodology (substance-based approaches)

**Risk of neglecting less investigated / emerging substances!**

# Well investigated vs emerging substances

There is no place for **TOP-DOWN** approach in **RESEARCH** not demonstrated: too

**TOP-DOWN** approach  
TARGET & select:  
PRIORITISATION of emerging  
SUBSTANCES

Data comparability:  
-Common Protocol for methods validation  
-ILS

Not monitored

**RESEARCH** network  
MAN

Data sharing / data , info exchange  
- Databases

**NORMAN strategy**

Not regulated

**BOTTOM-UP** approach  
Identification of relevant toxicants via **FIELD-BASED** approaches  
Biological tools in combination with chemical analysis

# Setting priorities among emerging substances

- **NORMAN Working Group N°1: Prioritisation of emerging substances**
  - **NORMAN list: more than 400 substances identified in the scientific literature as «emerging substances»**
  - **Need to establish criteria for setting priorities among emerging substances : definition of action categories to fill current gaps**
  - **The result of this WG will help future NORMAN actions : investigative monitoring exercises, interlab studies, biological testing (WG on bioassais), etc.**

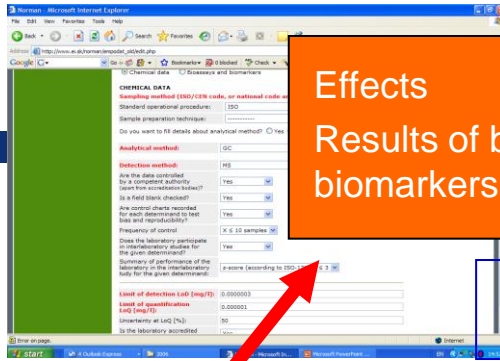


# Identification of relevant toxicants and their monitoring

- Monitoring and modelling-based prioritisation can only partly solve dilemma of the complexity of contamination
- Two Working Groups dealing with the biological tools:
  - WG-2 “The value of bioassays / biomarkers in water quality monitoring: strategies for interpretation of results” (INERIS / IVM / RIVM)
  - WG-3 “Effect Directed Analysis – (UFZ): combination of extraction, biological testing, fractionation, and chemical analysis to reduce complexity of the mixture of compounds and enable identification of toxicant(s) responsible for observed biological response.

# Data sharing

Occurrence in the environment

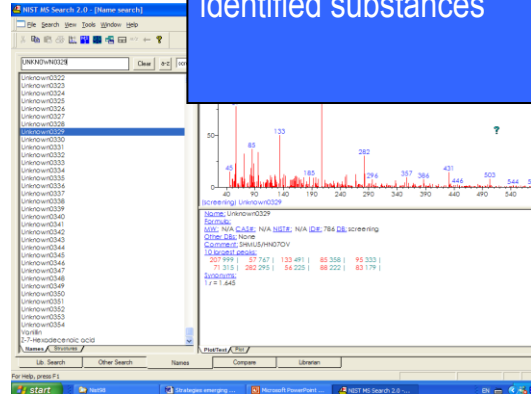


Effects  
Results of bioassays,  
biomarkers

**EMPODAT**

**EMPOMASS**

Mass spectra + num info for not yet identified substances



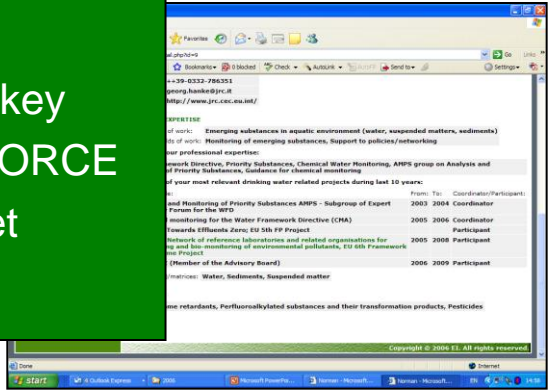
Substance

Institutes:  
- X. Bbb  
- Y. Bcc  
- Z. Bdd

Experts:  
- A. Bbb  
- B. Bcc  
- C. Bdd

**EMPOMAP**

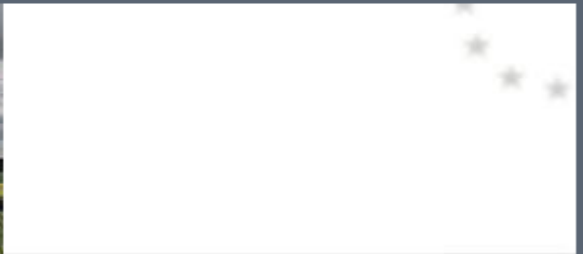
Projets:  
- Modelkey  
- PERFORCE  
- Sednet





Network of reference laboratories for monitoring of emerging environmental pollutants

Sixth Framework Programme



You are logged in as **admin admin** (Username: **admin**)

### Add new entry or Edit the database

Select

- Chemical data
- Bioassays - monitoring data
- Bioassays - ecotoxicity studies

Next

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FAQ  
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You are logged in as Jaroslav Slobodnik (Username: js)

### Search

4349 match(es) found to your query

	Determinand/measurand	Concentration	Ecosystem matrices	Sampling site/station	Sampling date
1826	Dibutyl tin ion	3.000 µg/l	Biota - River water	River Saar, barrage Rehlingen	28.07.1997
1858	Dibutyl tin ion	Less than 3 µg/l	Biota - Lake water	Lake Belau	11.09.1997
1785	Dibutyl tin ion	3.000 µg/l	Biota - River water	River Saar, barrage Guedingen	06.08.1996
1572	Dibutyl tin ion	Less than 3 µg/l	Biota - River water	River Elbe, near Prossen	25.08.1999
1636	Dibutyl tin ion	4.000 µg/l	Biota - River water	River Elbe, near Barby	18.08.1999
1700	Dibutyl tin ion	23.000 µg/l	Biota - River water	River Elbe, near Blankenese	14.09.1999
1764	Dibutyl tin ion	Less than 3 µg/l	Biota - River water	River Mulde, near Dessau	01.08.2003
1827	Dibutyl tin ion	Less than 3 µg/l	Biota - River water	River Saar, barrage Rehlingen	20.07.1998
1859	Dibutyl tin ion	Less than 3 µg/l	Biota - Lake water	Lake Belau	16.09.1999
1786	Dibutyl tin ion	3.000 µg/l	Biota - River water	River Saar, barrage Guedingen	27.07.1997
1573	Dibutyl tin ion	Less than 3 µg/l	Biota - River water	River Elbe, near Prossen	11.08.2000

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**Network of reference laboratories for monitoring of emerging environmental pollutants**

Sixth Framework Programme

**Search**

4349 match(es) found to your query

	Determinand/ measurand	
1826	 Dibutyl tin ion	3.0
1858	 Dibutyl tin ion	Le
1785	 Dibutyl tin ion	3.0
1572	 Dibutyl tin ion	Le
1636	 Dibutyl tin ion	4.0
1700	 Dibutyl tin ion	23
1764	 Dibutyl tin ion	Le
1827	 Dibutyl tin ion	Le
1859	 Dibutyl tin ion	Le
1786	 Dibutyl tin ion	3.0
1573	 Dibutyl tin ion	Le

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Fraud monitoring is on

**QA/QC information about chemical data**

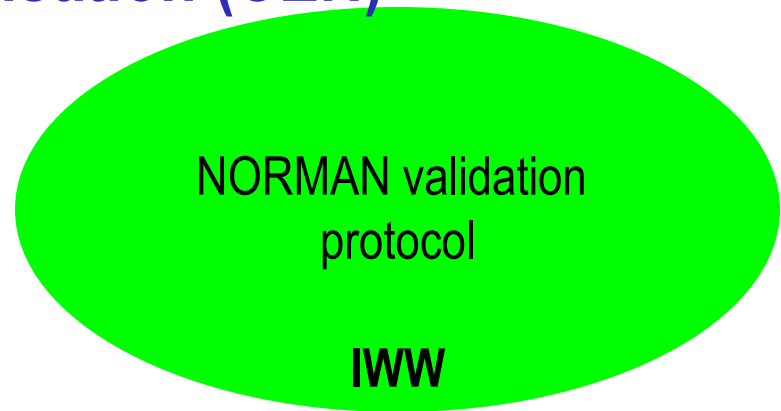
Limit of Detection (LoD):	1 µg/kg
Limit of Quantification (LoQ):	3 µg/kg
Uncertainty at LoQ:	15 %
Sample preparation method:	TMAH digestion, n-hexane extraction, derivatisation (alkylation with ethylborate or Grignard)
Analytical method/Detection:	GC-AED (atomic emission detection)
Has used method been validated according to NORMAN protocols?	No
Have the results been corrected for extraction recovery?	No
Was a field blank checked?	Not applicable
Is laboratory accredited according to ISO 17025?	Yes
Is the laboratory accredited for given determinand?	Yes
Does laboratory participate in interlaboratory studies for the given determinand?	Yes
Summary of performance of the laboratory in the interlaboratory study for the given determinand:	z-score (according to ISO-13528) ≤ 3
Are control charts recorded for the given determinand?	Not applicable
Are the data controlled by a competent authority?	Yes

Done Internet | Protected Mode: On 100%

http://www.ei.sk/norman\_new/empodat/search\_detail.php?id=1572



- Harmonisation and validation of analytical methods
- Implementation of NORMAN methods validation protocols in European Standardisation (CEN)



Validation protocol developed during the NORMAN project: common European framework for methods validation

TC 230 resolution (397): NORMAN protocol will be the basis for New Work Item Proposal (future CEN TS)



# Regulated Pollutants under WFD

# Regulated Pollutants under WFD

**WFD Priority  
Pollutants**

**Monitoring at EU level**



# Regulated Pollutants under WFD

**WFD Priority  
Pollutants**

**Monitoring at EU level**

**WFD „Other“  
Pollutants**

# Regulated Pollutants under WFD

**WFD Priority  
Pollutants**

**Monitoring at EU level**

**WFD River Basin  
Specific Pollutants**

# Regulated Pollutants under WFD

**WFD Priority  
Pollutants**

**Monitoring at EU level**

**WFD River Basin  
Specific Pollutants**

**National monitoring**

# Universe of Chemicals

## Universe of Chemicals

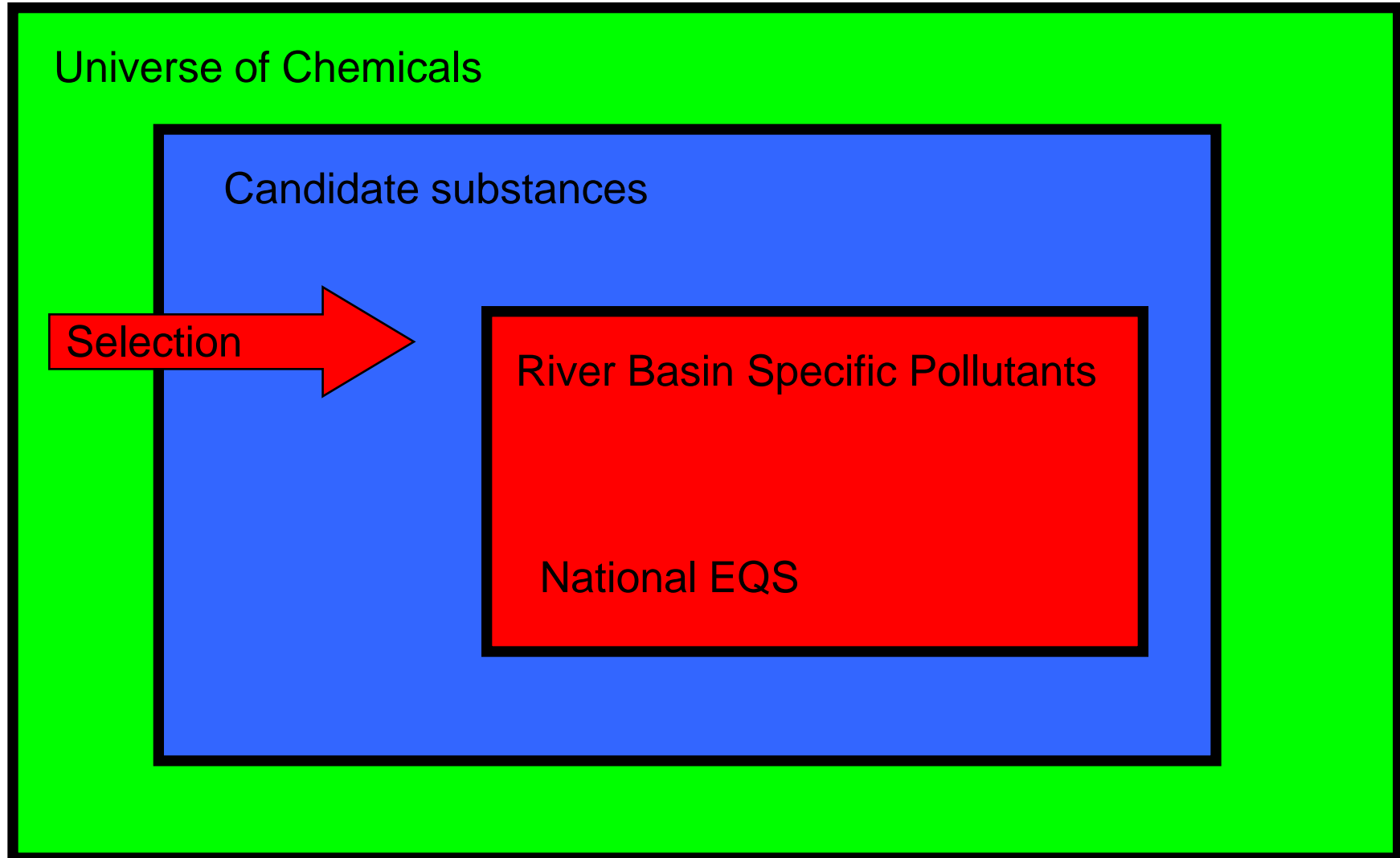
Candidate substances

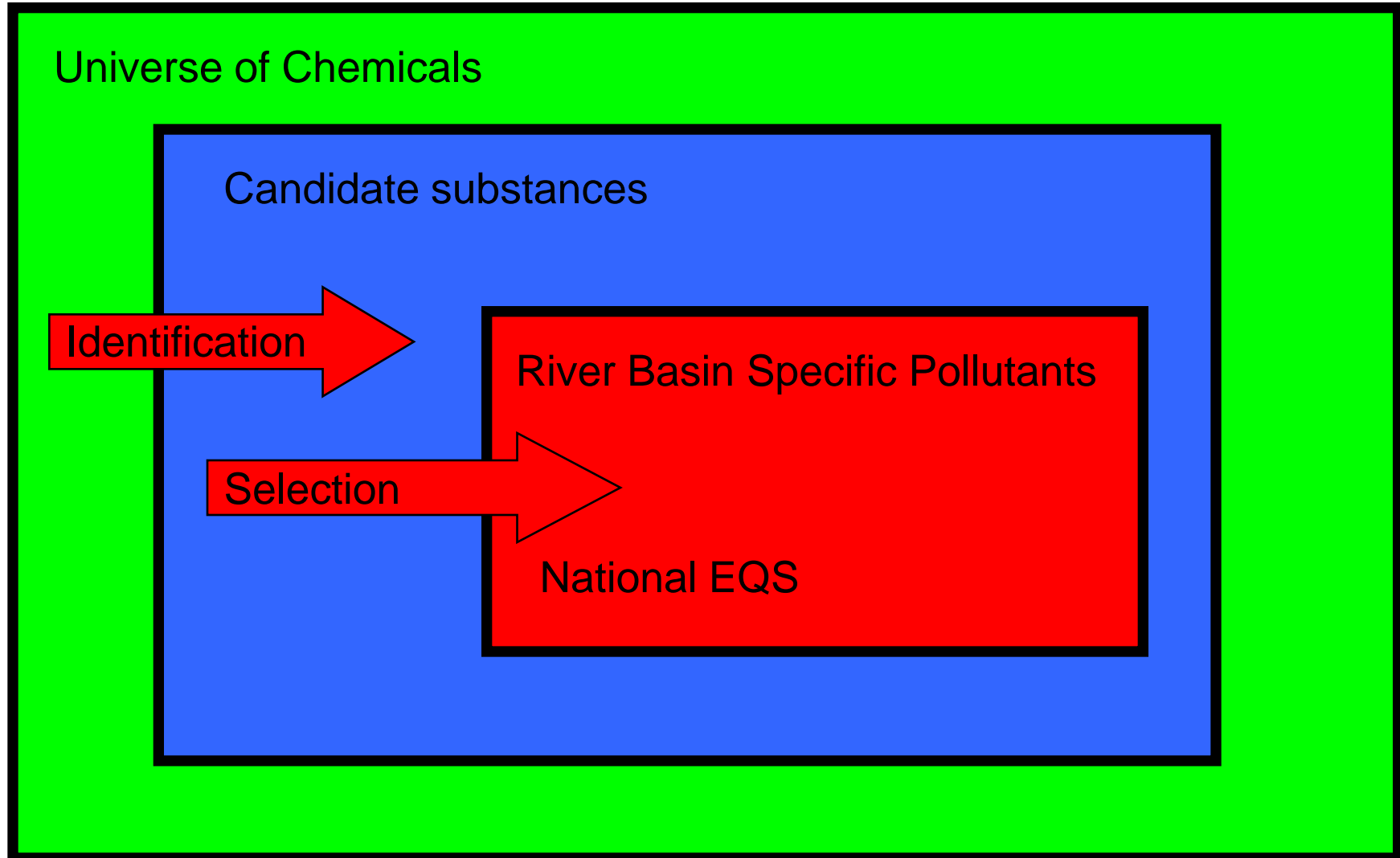
## Universe of Chemicals

Candidate substances

River Basin Specific Pollutants

National EQS







## 4 thematic areas:

- Data availability
- Identification of RBSP candidate substances
- Selection of RBSP
- Monitoring of RBSP

# This workshop is a **WORK**-shop.....

## Scope of the workshop:

- Be a platform for informal information exchange among Member States
- Identification and discussion of relevant questions among Member States
- Identification of priority development needs

## Workshop preparation:

- **Questionnaire distributed to MS via WG E and Chemical Monitoring group (14.1.2010)**
- **Drafting of questions for thematic areas**

## Workshop organisation:

- Introduction and background info
- Overview on questionnaire feedback
- Working sessions on thematic areas
- Wrap up and outcome drafting

## Working sessions:

- **5 min flash presentations for „scene setting“**
- **Discussion of questions**
- **Answer compilation at tables**
- **Collection of table answers**

## Envisaged workshop output:

- **Enhanced communication among MS**
- **Compilation of questionnaire feedback**
- **Compilation of discussion outcome**
- **Drafting of report and publication after agreement by participants as EU report**

**➔ Overview on feedback presented by Henna Piha**