# HBM and latest developments towards a more harmonized approach in Europe

# Successful examples of HBM programmes as policy tool

1. US (NHANES/CDC, annually since 1999)
2. Canada (CHNS, Canadian Health Measures Survey, 2007 – 2009)
3. Germany (German Environmental Specimen Bank since 1974, GerES I – IV,1986 – 2006)
4. Czech Republic (Environmental Health Monitoring System since 1994)
5. Flemish HBM Program (2002 – 2006)
6. France (ENNS study – population based HBM and nutrition survey
7. Italy (PROBE – first HBM survey for heavy metals 2008 – 2010)
8. WHO survey on dioxins and PCB levels in human milk

or the envisaged UNEP activity related to mercury

# Strenghts and advantages of HBM in policy

- Integrates contribution of different sources and routes of exposure
  - Detection of time trends
  - Difference in sub populations
  - Evaluation of public policies
- Much closer to health effects than environmental monitoring
  - Existing examples of Public Health actions
- Gets pollution personal
  - Awareness raising and education
    - Trigger for actions at personal and at societal level
    - Doing it is a message: society cares about EH

# Human Biomonitoring in Europe

**Action 3 of the EHAP - 2004**

- *We will develop a coherent approach to human biomonitoring in Europe*
  - ESBIO FP6 2006
  - Council Conclusions 2007
  - Paris Conference 2008
  - COPHES/DEMOCOPHES 2009
  - Berlin & Brussels Conferences 2010
  - Council conclusions 2010
  - Budapest symposium 2011

**Commitment to act – 2010**

- *We will contribute to develop a consistent and rational approach to human biomonitoring as a complementary tool to assist evidence-based public health and environmental measures, including awareness-raising for preventive actions*

Protéger la santé des enfants dans un environnement en mutation

COPHES
Consortium to Perform Human Biomonitoring on a European Scale

DEMOCOPHES
Demonstration of a study to coordinate and perform human biomonitoring on a European Scale

# HUMAN BIOMONITORING FOR EUROPE

## a harmonised approach

SEVENTH FRAMEWORK PROGRAMME

Life

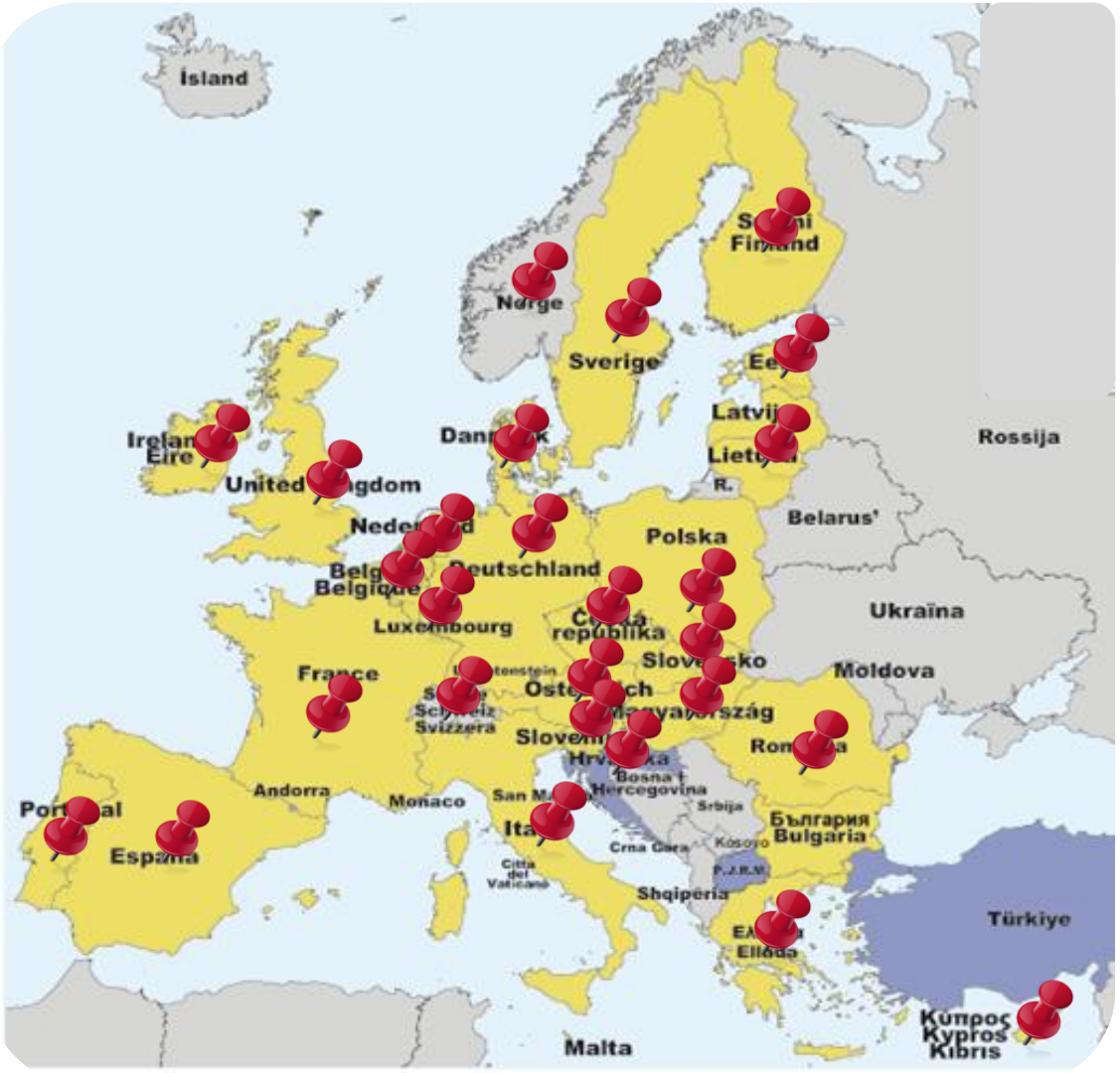
**COPHES partners**

24 European Member States a well as Norway, Croatia and Switzerland

**Active DEMOCOPHES partners:**

17 countries: BE, CY, DE, DK, PL, RO, SI, ES, HU, SE, UK, PT, CZ, SK, LU, IE, CH

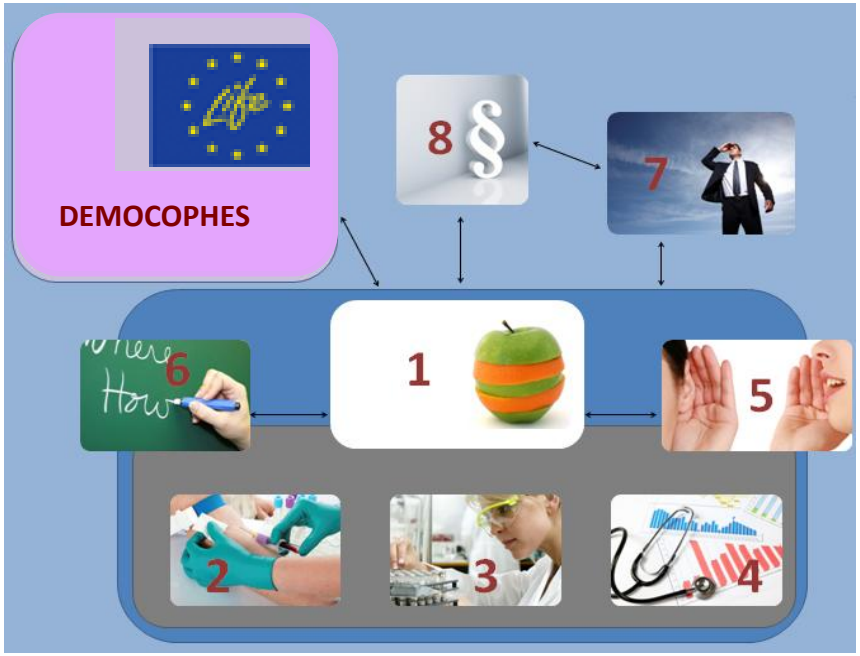
NO, FR, AT, HR involved as ad hoc partners



# Similarities – Differences – Common Interests

**FP7 funded by the European Commission**

- → Provides framework
- → Provides guidance
- → Analyses results on a EU level
- → Recommendations & Conclusions

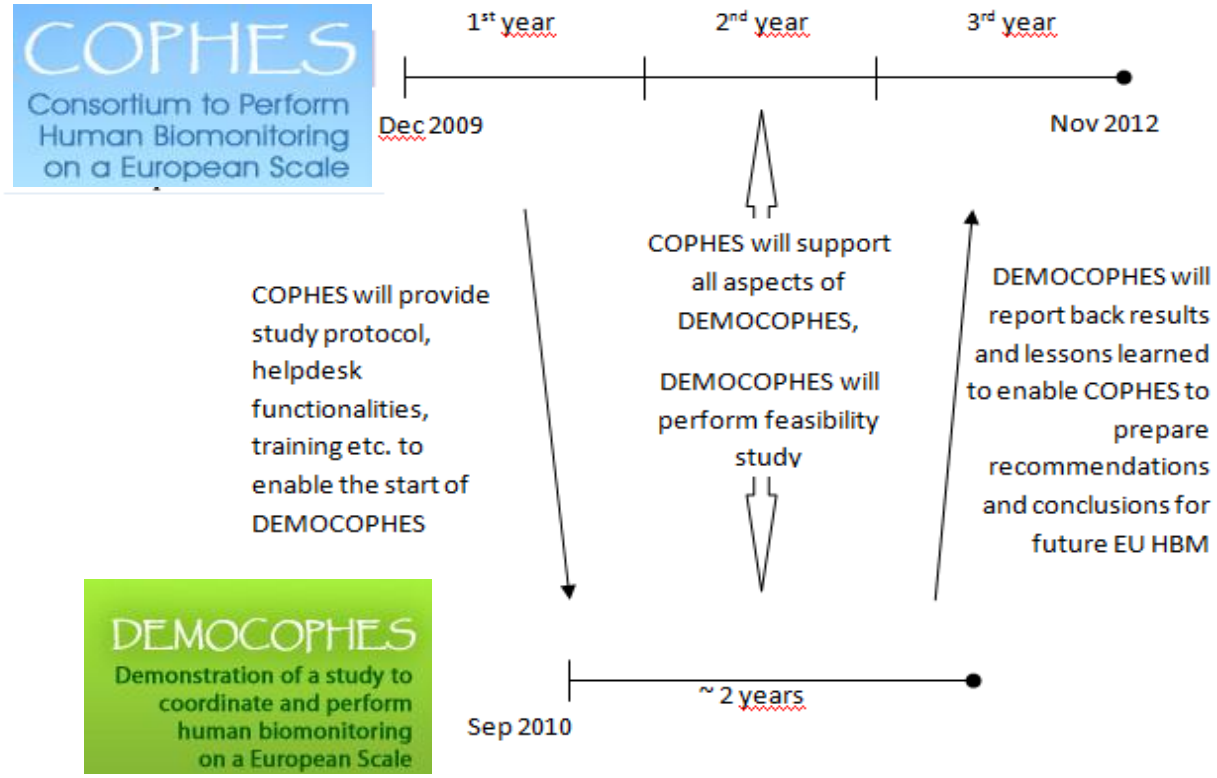



**Life+, funded by European Commission and Member States**

- → children and their mothers
- → at least 3600 study subjects
- → cadmium, phthalates, cotinine in urine
- → mercury in hair
- → (bisphenol A in urine)

**Harmonised approach for HBM in Europe**

# Operational aspects – Two project working together



# Achievements and milestones

## COPHES

- EU Protocol and SOP's ready
- 1st ICI finalised
- Helpdesk started
- WG started
- Training in preparation
- Website updated

## DEMOCOPHES

- National protocol in preparation
- Sampling Sept-Dec 2011
- Chemical analysis Jan-Feb 2012
- Analysis of results March-May 2012

# Work packages

**WP 1 – Operational EU HBM framework;** Ludwine Casteleyn, KU Leuven

**WP 2 – Sampling, recruitment and sample collection;** Marika Kolossa-Gehring, Kerstin Becker, UBA

**WP 3 – Sample handling, analysis and biobanking;** Argelia Castano, ISCIII

**WP 4 – Data analysis and integrated interpretation;** Greet Schoeters, Roel Smolders, VITO

**WP 5 – Communication and dissemination;** Ovnair Sepai, HPA

**WP 6 – Training and capacity building**; Milena Horvat, Louis Bloemen

**WP 7 – Horizon scanning and link to other research projects;** Lisbeth Knudsen, UCPH

**WP 8 – Support for sustainable EU HBM programme (policy support);** Reinhard Joas, BiPRO GmbH

**WP 9 – Coordination and management;** Reinhard Joas, BiPRO GmbH

# DEMOCOPHES - The European feasibility study on mothers and children

| WP2: 1. Study Population | |
|---|---|
| **Topic** | **Alternatives** |
| **Choice of vulnerable population segment** | ▶ Newborns |
| | ▶ Babies |
| | ▶ Toddlers |
| | ▶ Preschool children |
| | ▶ Schoolchildren |
| | ▶ Mothers, pregnant women |
| | ▶ Women in childbearing age |
| | ▶ Seniors |

- focus will be given to **urinary cadmium**, **phthalates** and **cotinine** as well as to **mercury** in hair
- **120 mother /child** couples should be monitored per country

# (DEMO)COPHES priorities related to HBM as policy tool

A) Develop a concept for a sustainable European HBM framework and policy recommendations on how to better link it to policy needs

1. Assess authorities and stakeholders perspectives for relevant steps of HBM studies
2. Identify long-term requirements in an organisational context
3. Estimate costs and resources needed for a sustainable framework
4. Explore the possibility to liaise with the Health Examination Survey
5. Ensure that HBM is linked to the existing regulatory frameworks

B) Establish tools for policy developments such as an effective and harmonized approach for interpretation and communication of results

e.g. an effective and harmonized approach for interpretation and communication of results

# HBM as policy tool – the way forward

EU/international:

1. Commitment for harmonised HBM approach
2. Development of E&H indicators
3. Idea on feasibility of comparability of data
4. First set of reference data on environmental chemicals
5. Tested infrastructure in 17 countries
6. Expert network

National level:

1. Capacity building on practical application of HBM
2. Awareness raising about possibilities of HBM
3. Integration of national policies on food, environment and health
4. Agreements between industry and competent authorities
5. Selection of chemicals of interest ongoing and expanding (>100)

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Life

## German Initiative to Support HBM

German Chemical Industry Association (VCI)

VCI

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Umwelt Bundes Amt
for our Environment

**Federal Environment Agency**

Steering Group:
Representatives from industry, ministry and agency

Expert Group:
Scientists from research institutes, industry and federal agencies

Communication Team:
Representatives from industry, ministry and agency

→ Development of chemical-analytical methods sensitive enough to detect environmental exposure

Source: Marike Kolossa-Gehring et al. International Symposium Budapest 2011

# Systematizations of chemicals for HBM – The German approach

***120 chemicals*** with

a) a potential health relevance or

b) to which the general population might potentially be exposed to a considerable extent

Grouped in the categories:

- Phthalates - Musk fragrances - Nano particles - Flame retardants
- PFC and FC - Aromatic amines - Chemicals used in cosmetics - Metals
- Benzothiazoles - Contaminants in food - Allergenic substances
- SVHC candidates (Art. 57)

→ Germanys next HBM candidates



Source: Marike Kolossa-Gehring et al. International Symposium Budapest 2011

# Vision and future steps for HBM as policy tool at EU level

→ **At short-term**

To design the outline of a more global EU programme

collecting information on a representative sample of the EU population including clear communication strategies and scenarios for translation of scientific data into policy

→ **At mid-term**

To collaborate with other existing/in development surveys

coupling HBM to other surveys

To give the necessary information for data interpretation

To provide considerable cost savings and

To create unforeseen research, risk/benefit and policy opportunities.

→ **At long-term**

To assure the continuity of a EU HBM programme as a policy tool.

embedding HBM survey activities in governmental institutions rather than to outsource it to academic groups

Thank you for your attention

www.eu-hbm.info