



# CEMAS – A CEFIC Sponsored Database for Chemical Exposure Management and Assessment

---

CEFIC LRI project – collaborative project team:

Peter Ritchie – Institute of Occupational Medicine, UK.

Dr John Cherrie – University of Aberdeen and IOM, UK.

Dr Hans Kromhout – IRAS – University of Utrecht, NI.

Dr Igor Burstyn – IRAS – University of Utrecht, NI.\*

(\* Now University of Alberta, Canada)



# CEFIC LRI project – collaborative project team – contact details

---

- Peter Ritchie – Institute of Occupational Medicine, UK.
  - <mailto:peter.ritchie@iomhq.org.uk>
  - <http://www.iom-world.org>
  
- Dr John Cherrie – University of Aberdeen and IOM, UK.
  - <mailto:john.cherrie@iomhq.org.uk>
  - <http://www.iom-world.org>
  - <http://www.herox.org>
  
- Dr Hans Kromhout – Institute for Risk Assessment Sciences, University of Utrecht, Netherlands.
  - <mailto:H.Kromhout@iras.uu.nl>
  - <http://www.iras.uu.nl>



# CEMAS: CEFIC Exposure Management and Assessment System

---

- Summary – a brief overview
- Why do we need another database?
  - Product stewardship and responsible care
  - Regulatory risk assessment
- Who do we hope will use CEMAS?
  - From COSHH essentials to *eRisk*
- What does the database contain?
- Plans for the future...



# Why Another Exposure Database?

---

- Drivers for CEMAS – CEFIC involvement
- Shortages and gaps in data where it should be available:
  - “Responsible Care, ... committed to continual improvement in all aspects of health, safety...”
  - Risk assessment requirements -
    - Within the existing substances programme
      - Where is the exposure data to support this process – on its own, or for modelling?
    - Chemical Agents Directive (CAD)
    - EU Chemicals White Paper



## Aims of the CEMAS project...

---

- Seeks to provide a PC based guidance tool for SME users of chemicals that:
  - gathers exposure data and contextual information for structured decision-making on exposure (inh & derm)
  - Provides for the appropriate analysis of exposure data – summary stats & IRAS's SPEED
  - provides practical assessment of the suitability of exposure controls and advise when exposure monitoring may be required
  - is consistent with prevailing regulatory expectations
  - provides opportunities to target Product Stewardship
  - assists CEFIC sectors/groups measure performance
  - is aligned with the principles of Responsible Care
  - is available free



## Approach and stages, with consultation

---

- Previous knowledge, literature and experience of EDB and epi research
- Existing EDB and ongoing efforts towards data standards
- Stakeholder consultation
- Initial design prototype and testing
- Limited pilot test
- Revision and refinement



## Why would SMEs use CEMAS?

---

- Currently for dermal and inhalation data
- We have decided to provide a decision aid to advise when monitoring may be appropriate
- ... and to generally encourage monitoring
- Based upon the UK COSHH Essentials scheme ([www.coshh-essentials.org.uk](http://www.coshh-essentials.org.uk))
- We use the term *eRISK*



## eRISK...

---

- Uses information about:
  - Physical and chemical properties of substance
  - Risk phrases assigned to product
  - Quantity used.
- We ask about control measures and feedback if better controls needed
- Suggest monitoring
- All data stored in database



**CEMAS Main Switchboard**

**CEMAS**  
**CEFIC Exposure Management and Analysis System**

**Company: Red Ant Chemicals**

**Edit Company Details**

**Premises Details**

**E-Risk**

**Exposure Survey Admin**

**Exposure Survey Schema**

**Definitions**

**Project Contacts**

**Exit CEMAS**

Pre-Prototype  
Post June



# Industry, process, job, tasks ....

---

We collect information about:

- Industry (standardised and CEFIC sectors)
- Workplaces
- Jobs (standardised and local names)
- Processes
- Tasks
- Controls
- Exposure survey, data and context

# CEFIC CEMAS Database Pre-Prototype 1.1 - [Basic Premises Information]

File Edit View Insert Format Records Tools Window Help

Type a qu



## Premises Details for Red Ant Chemicals Company

Premises local ID  Added:  Updated:

Premises/Site Name

Contact Details

Industry Coding

CEFIC Affiliation

Health and Safety

Quality Assurance

### Premises Summary Health and Safety Details

Do you have a written health and safety policy ?

Do you assess health and safety risks arising from work practices ?

Do you have an appointed health and safety advisor ?

Do you have a health and safety training programme for the workforce ?

Administer For  
The Current  
Premises

Departments

Processes

Work Places

Jobs

Employees

**CEFIC CEMAS Database Pre-Prototype 1.1 - [Basic Survey Information]**

File Edit View Insert Format Records Tools Window Help

Survey Planning - Premises: Red Ant Forth Organics Plant

Survey ID: 24 Added Updated

Survey Title: Solvents Monitoring:PaintShop Paint Mix Areas,Check and Repair Workdeck and Wax Booth

General Description | Sampling and Analysis Strategy

Start Date: 24 February 1993 End: 25 February 1993 Survey Completed?

Survey Authority: Mr A Friend

Survey Reason: Compliance testing

Describe Survey Aims and Objectives: A survey was carried out to assess compliance with the occupational exposure limit for xylene used in the plant.

Surveyor: Institute of Occupational Medicine Analyst: Institute of Occupational Medicine

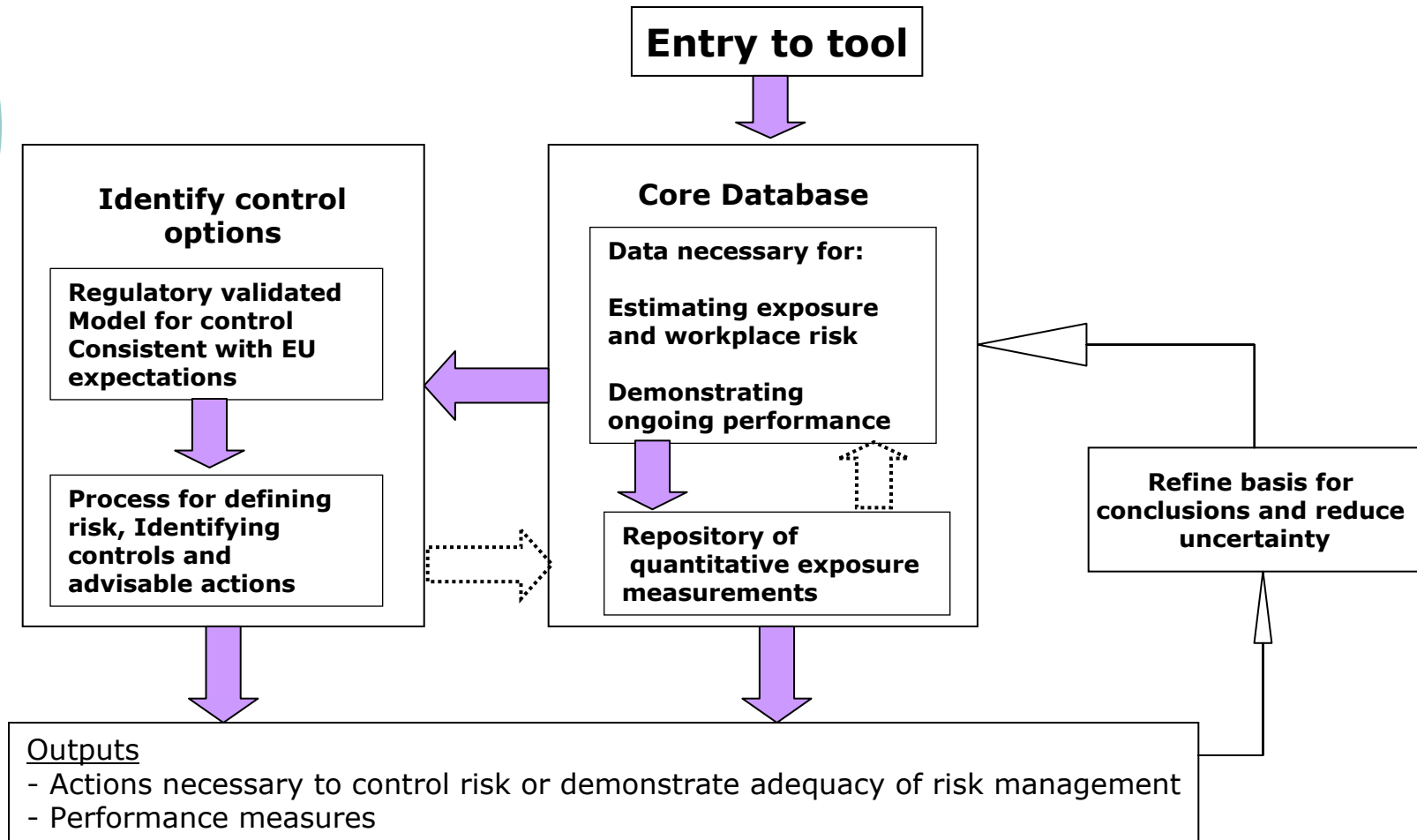
Survey Report File: S:\24HourTemp\QUALITY CONTROL MANUAL.doc

**Sample-Sets and Results**

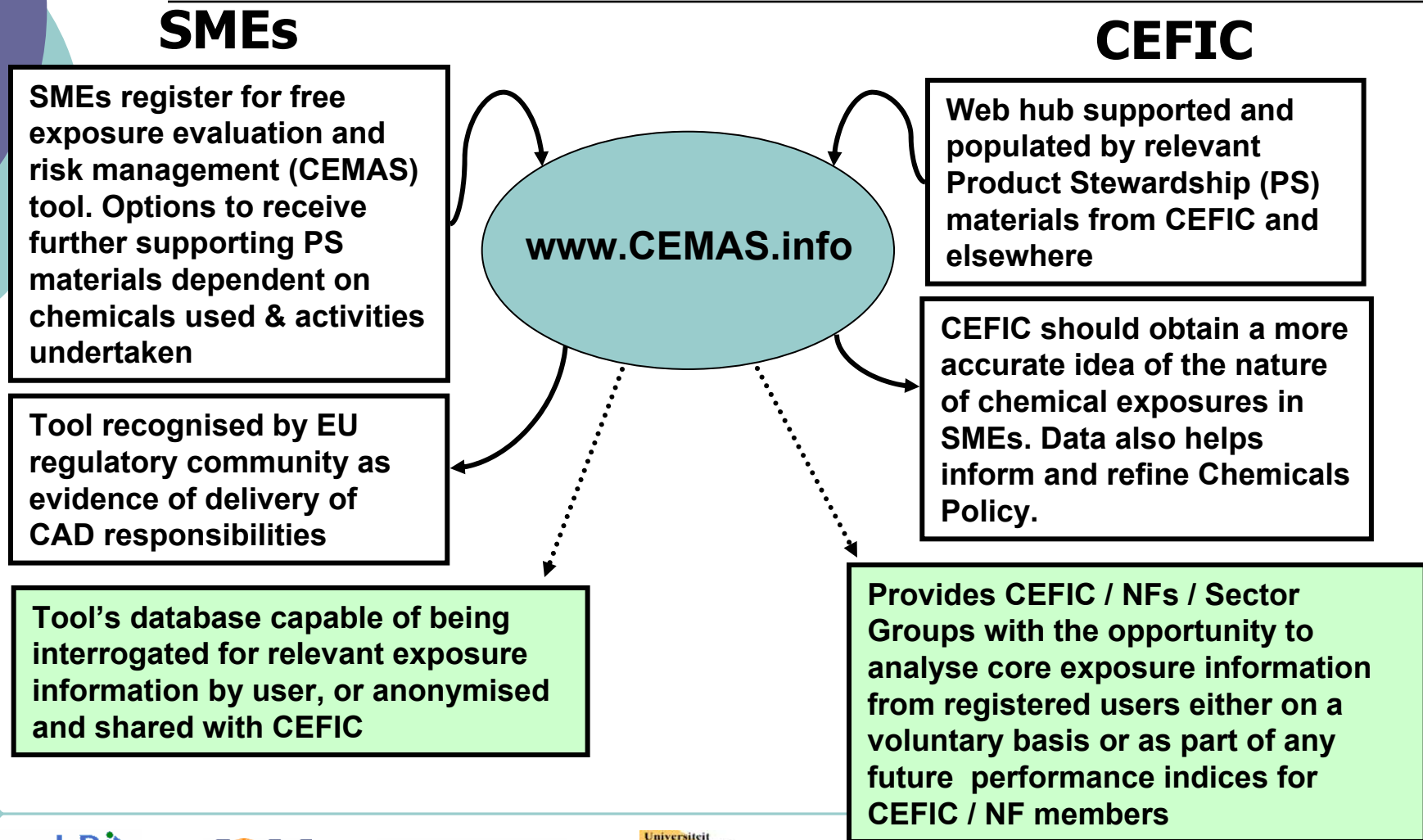
1 of 6 Surveys at these premises

First Previous Next Last New

# Key elements of CEMAS operation



# Plans for interaction of CEMAS with Users



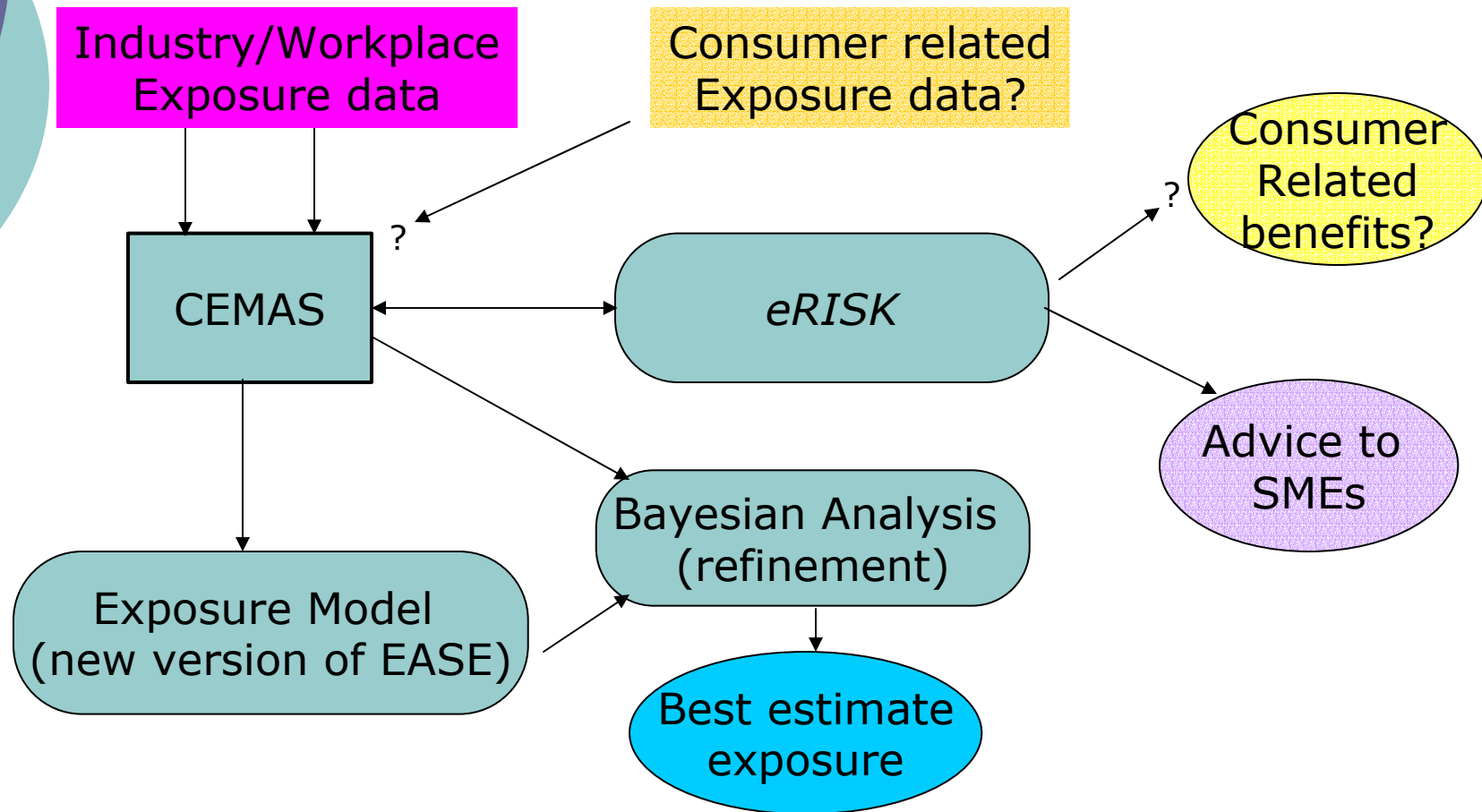


# Plans to progress CEMAS

---

- Phase II - next version of the database and stakeholder trials
  - Currently using version for other exposure studies at IOM – continuing refinement
  - Update structures and interface, checking and validation, layering, reports, SPEED and summary stats
  - 10 companies from two CEFIC sector groups to undertake fairly intensive usability trials
  - Continuing development of EDB standards
- Phase III - Final production of free product and it's promotion will be the subject of a separate RfP –

# CEMAS in context - vision of the future...







# Acknowledgements

---

- The research team and their institutes would like to acknowledge the support and sponsorship of this project by the CEFIC LRI.