

This is the fourth and final newsletter of the INTERA Project (published 2 May 2012). A lot has been happening with the INTERA project since our last newsletter including the development of the computational and visualisation platforms, completion of the case studies and stakeholder workshop.

### **Development of 'full-chain' computational platform and visualisation tools**

The INTERA computational platform, a web based software, which follows the full chain approach from source to dose to support refined exposure assessment in indoor settings was developed. The program offers a number of generally applicable exposure models for the different exposure routes, Physiology Based Toxicokinetic Model and a database containing information on exposure factors ranging from human physiological parameters to emission data from consumer products and from indoor concentration levels to building characteristics. Together, the database and models provide the tools to assess exposure for scenarios developed by the user, whereby only limited additional information on consumer products use and the physicochemical properties of the compound of interest are needed.

Whereas the computational platform is featured with tools to generate graphs within one scenario run, the additional value of the visualization platform is that it can present the output of various model runs in one graph or map, thereby allowing comparison of different runs of the computational platform, as function of a user selected parameter (e.g. geographical location, air exchange rate (AER), indoor/outdoor ratio).

The computational and visualisation tools, along with user guidance manuals, are available from: <http://www.intera.cperi.certh.gr/modelling/main.php>. You will need to register first (it is free to use) at <http://www.intera.cperi.certh.gr/auth/login>.

### **Workshop**

A workshop was held on the 18<sup>th</sup> November 2011 in Brussels, Belgium to provide interested stakeholders with an overview of the INTERA project and an opportunity to trial the indoor exposure assessment tools developed. The workshop was attended by 15 delegates representing a range of research, industry and regulatory organizations. Valuable comments were obtained from delegates during the workshop that were helpful when further refining the model.

Copies of workshop presentations, as well as a short report on the workshop, are available from the INTERA website, <http://www.intera-home.eu/NewsEvents/Workshop/Presentations.aspx>.

### **Case Studies**

Three case studies were completed to test the integrated methodology, suggest refinements to the computational and visualization tools and to identify any data gaps. These were DMF (dimethyl fumarate, dermal route), phthalates (multi-pathway exposures), and BTEX (benzene, toluene, ethylbenzene and xylenes, with mixture effect).

The INTERA platform has been implemented in a flexible modular environment allowing the user to start either from emission, using concentration or release rate data, or chemical concentrations measured indoors. If starting from emission, either estimated data or actual data can be used.

Individual case study reports are available however a number of general conclusions emerged. The case studies demonstrated the INTERA tools applicability for chemicals ranging from Very- to Semi-volatile organic compounds, for dermal, inhalation and multi-route exposure settings, and for endpoints ranging from exposure to target organ metabolite dose. The results, which can be compared to respective measured biomonitoring data, support the validity of the modelling platform.

### **Final report and project outputs**

The INTERA methodology is a clear advancement towards refinement of exposure and risk assessment and we strongly encourage you to read our final report and test the INTERA tools.

The final report is available on the INTERA website [here](#). Detailed reports on the individual INTERA work packages (e.g. Knowledge Management System (KMS), computational platform, visualisation platforms and individual case studies) are provided as appendices to the main report.

The content of KMS will continue to be maintained after the end of the INTERA project. The INTERA website will stay live and will be a portal for interested stakeholders to access information on the INTERA project and the tools, which will also remain freely available.

### **Thank you and further information**

We would like to thank you for your interest in this project. If you would like any further information about the:

- Overall project and KMS, contact Arja Asikainen at THL: ✉ [arja.asikainen@thl.fi](mailto:arja.asikainen@thl.fi) or ☎ +358 206 106 469.
- INTERA computational platform, contact Denis Sarigiannis at CERTH: ✉ [denis@eng.auth.gr](mailto:denis@eng.auth.gr) or ☎ +30 2310 994562.
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