

Editorial



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Dear friends of HEROIC,

The previous newsletter featured preliminary findings of a stakeholder consultation which aimed to collect new insights on potential socio-behavioural factors influencing the effectiveness of the risk analysis procedure; we also reported activities related to an expert consultation workshop on expert elicitation and a workshop on extrapolation for hazard assessment.

In this issue we provide some information on an expert workshop on extrapolations in integrated exposure assessment held in Paris, France, on January 21-22, 2014. While HEROIC is entering the final six months of the project, we take the opportunity to introduce to you the roadmap to the white paper, regarded as HEROIC's major output, which will feature a synopsis of the project's policy and technical recommendations for the harmonization of human and environmental risk assessments.

We would like once again to encourage all interested parties to support us in our endeavour and to constructively collaborate in achieving our objective for the benefit of society as a whole.

We hope that you find this information useful, and we are looking forward to hearing your feedback.

Prof. Martin F. Wilks
Project Coordinator

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HEROIC roadmap to the white paper on policy and technical recommendations

While HEROIC is entering the final six months of the project, we take the opportunity to present our roadmap to the “White paper“, which is due at the end of the project and which is regarded as the major outcome of our Coordination action. The „White paper“ will feature policy and technical recommendations on how to better harmonize human and environmental risk assessments; it will summarize the key outputs and recommendations from each of the Work packages (WP) and pave the way forward for the development of an integrated risk assessment (IRA) framework.

The overall objective of HEROIC is to give recommendations and guidance on how to establish a framework for IRA, while at the same time highlighting those areas where most urgently scientific progress is needed to close the gaps and reach that ultimate goal. HEROIC aims to explore different ways of improvement, harmonization and cross-fertilization of tools and methods used in environmental and human risk assessments, in particular by:

- exploring and evaluating the cross-disciplinary use of hazard and exposure data in human and environmental risk assessments to optimize resources use and meet current needs of risk management and policy-making;
- fostering cross-disciplinary cooperation and mutual understanding among human and environmental scientists, including risk assessors and risk managers;
- showing the added value of IRA and promoting its acceptance to a broad stakeholder audience, including risk managers, policy makers and NGOs.

HEROIC has addressed these issues through its different WP activities, whose major outputs will feed into the „White paper“. Those anticipated outputs are briefly summarized below.

Based on i) a status map and a gaps and needs analysis of current risk assessment processes (WP2); and ii) on an inventory of data and models available for hazard characterization and exposure assessment (WP3), innovative approaches and further opportunities for extrapolating across human and environmental hazard and exposure assessments were identified and discussed during several expert workshops. As a follow up to these activities, recommendations for a more transparent, structured and robust framework to integrate various sources of information for hazard and exposure assessment will be drafted.

Evaluating how human and environmental risk assessors cross-evaluate and integrate (eco)toxicological data to come to a decision is an important element to illustrate how, where and why human and environmental risk assessments are done differently. As part

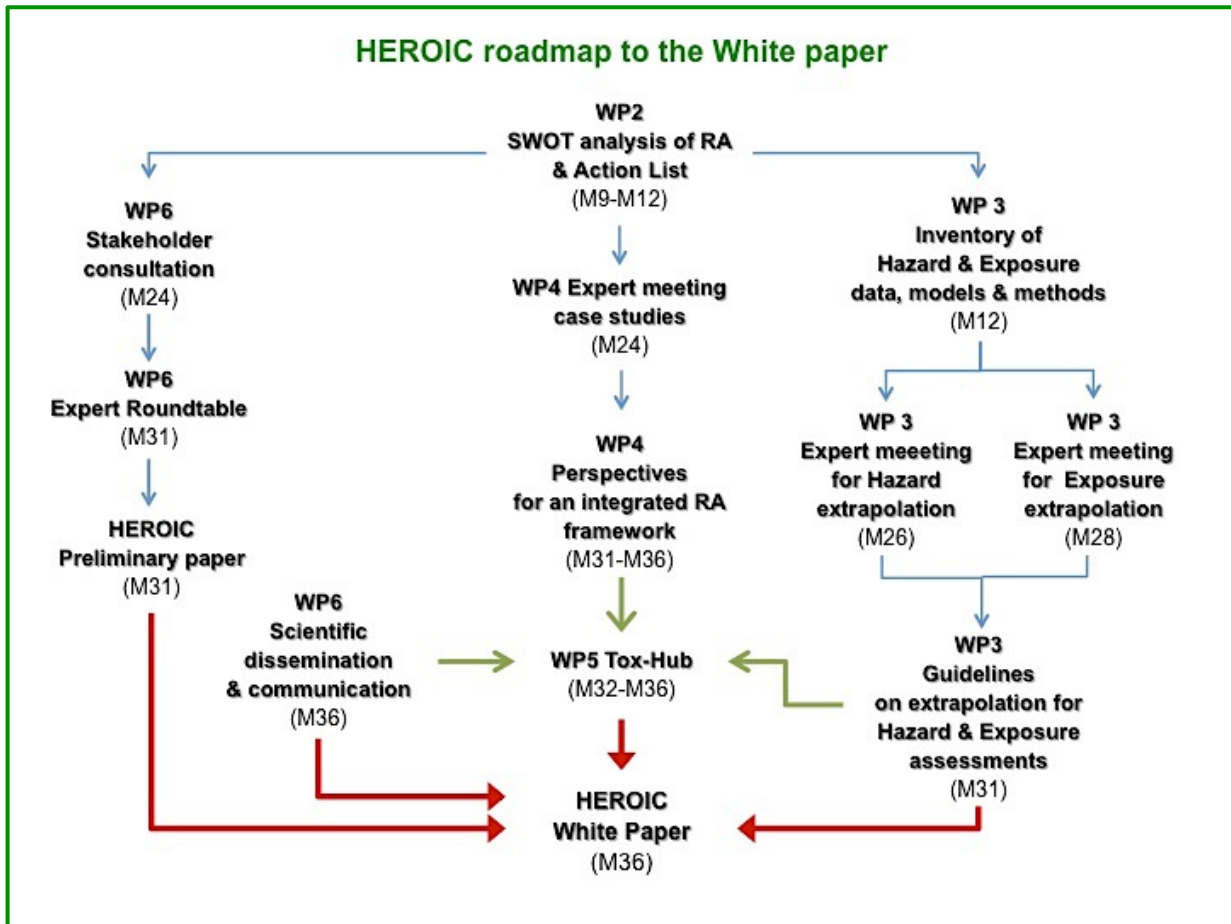
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of WP4 activities, an expert consultation was organized to analyze expert decision rules and identify the main drivers for integration in the decision-making process, based on two selected case studies (skin sensitization and endocrine disruption). This work, together with a comprehensive analysis of existing weight of evidence (WoE) frameworks and approaches for evaluating (eco)toxicological and exposure data quality with a focus on relevance, reliability and uncertainty, will serve as an input to draft recommendations to improve the WoE process in risk assessment. In turn, this will contribute to develop a more robust and more transparent integrated decision-making process framework.

As a complement to the approach taken by WP4, a broad open scale stakeholder consultation was launched as part of WP6 to collect opinions on potential socio-behavioural factors that interplay and may influence the decision making process in the way experts evaluate risk to come to a conclusion. The objective of this work is to better highlight how this qualitative component, e.g. in term of human values and preferences, may contribute to shape current policy priorities, protection goals and perception among different societal groups, and how knowledge in risk assessment is interpreted by risk managers and translated into risk management options. Results will be further refined through a follow up roundtable and contribute to an improved knowledge of decision-making and offer some perspectives for the development of a framework for IRA.

The white paper will also integrate the output from WP5 and WP6 communication and dissemination activities of scientific knowledge through the development of capacity building material and web-based tools (open-access platform Tox-Hub, e-training material, methods).

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Expert workshop on extrapolations in integrated exposure assessment, Paris, January 21-22, 2014



In the context of WP3, HEROIC partners EDF and INERIS organized an expert workshop on exposure extrapolation January 21st in Chatou and January 22nd in Paris. The aim was to get closer to a common understanding of integrated exposure assessment, and to assess how human and environmental exposure assessments can benefit from each other. There were 18 participants, among whom 8 were experts external from HEROIC, mainly coming from Public institutes involved in risk/exposure assessment.

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The workshop was structured in two breakout group sessions to explore different ways of improvement and cross-fertilization between Environmental and Human exposure assessments, in particular:

- developing generic modeling tools able to predict exposure for both Humans and ecosystems;
- proposing common probabilistic methods to screen uncertainty in the scenarios and help the building of realistic worst-case scenarios; extending the TTC concept for defining common exposure-based waiving rules;
- harmonizing data collection and reviewing available methods to go from one metrics relevant to Human/Ecosystems to another one relevant to Ecosystems/Humans;
- supporting the development of toxicokinetic approaches for one species based on information obtained for any other species, in the laboratory or in the field.

As a follow-up to this workshop, a manuscript for a peer-reviewed publication is currently being written to present and extend the discussions of the workshop, including in particular perspectives and recommendations on opportunities for extrapolating across human and environmental endpoints.

This work will serve as an input to draft guidelines on extrapolation for exposure assessment.

All participants are grateful to Alexandre Péry and Philippe Ciffroy for the hospitality and organisation of the meeting.

Focus On Heroic Partners


Our newsletter also gives us the opportunity to introduce the HEROIC partners.

We started in the first issue with the Swiss Centre for Applied Human Toxicology which coordinates the HEROIC project.

In the following issues we presented the Catholic University of Sacred Heart (UCSC), Italy, the Spanish Council for Scientific Research (CSIC), the National Institute for Industrial Environment and Risks (INERIS), France, the Benaki Phytopathological Institute (BPI), Greece, Faust and Backhaus Environmental Consulting (F+B) and the Helmholtz Centre for Environmental Research (UFZ), Germany.

The present issue features Electricité de France (EDF), France.

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	<p>Electricite de France (EDF, www.edf.fr), founded 1946, is a private company specializing in electricity, from engineering to distribution, and is one of the world largest producer of electricity. As part of the Research and Development Division in Chatou, France, the research Department involved in the HEROIC project is the National Hydraulic and Environment Department (LNHE, over 100 researchers). LNHE is one of the fifteen R&D Departments at EDF in charge of controlling the impact on health and aquatic environment of power generation plants. The activities of LNHE are organized around three research teams, one of them is the "Industry, water, environment and health" unit. The main topics this unit works on are: health hazards (chemicals, microbiology), radioecology and impacts of power generation on water quality and soil contamination. Scientific work is based on a wide range of tools: in situ measurement tools, test facilities, modeling, chemistry, microbiology and toxicology laboratories.</p>
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With its expertise in ecotoxicology, exposure modelling, WoE approaches and environmental and health risk assessment, EDF is responsible for WP4 *"Integrated decision making framework for the future"* and is involved in WP2 and WP3 in various activities related to exposure assessment and exposure modeling. The general goal of WP4 is to define a framework allowing the selection of the most informative data for human health and environmental risk assessment based on the following contributions:

- ranking and weighting reliability and relevance of available information related to hazard and exposure assessment (provided by WP3);
- integrating such information for decision making using a WoE approach;
- guiding the generation of new data through an Integrated Testing Strategy (ITS) including testing and non testing approaches, using relevance, reliability and uncertainty criteria;
- testing the framework on case studies.


Several expert meetings were already conducted as part of WP4 which included dedicated sessions to specifically address potential impacts on human health risk assessment regulation and socio-economics.

EDF has been involved in more than 40 European projects (e.g. FP6 2-FUN, ERICA), and non FP-European projects (e.g. AMORE).


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News

SETAC Meeting Europe

	<p>HEROIC will participate in the 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC Europe) “<i>Science across bridges, borders and boundaries</i>” that will be held in Basel, Switzerland, on 11th - 15th May 2014.</p> <p>On 11th May, HEROIC Coordinator Prof. Dr. Martin F. Wilks will have the opportunity to present the project to a wide audience in the frame of a one day short course on ‘<i>Advances in environmental and human risk assessment - a transatlantic perspective</i>’ jointly organized by the Swiss Centre for Applied Human Toxicology and the US Environmental Protection Agency.</p> <p>The SETAC meeting will also give the opportunity for the HEROIC partners to meet for their 5th Consortium Meeting.</p>
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Change of project lead at FERA

	<p>Dr Richard Glass, project lead for HEROIC at the Food and Environment Research Agency in York (UK) has left the organization at the end of January 2014.</p> <p>The HEROIC Consortium would like to thank him for his valuable contribution to the project and wishes him all the best for his new career.</p> <p>FERA will continue to be represented in the Consortium by Drs Abigail Dalzell and Chris Sinclair.</p>
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Events

Expert roundtable on socio-behavioural factors in risk analysis policy making, Brussels, April 7, 2014

As a follow up to the work already performed in different work packages (WP2, WP6) and to the stakeholder consultation on potential socio-behaviour factors influencing the

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effectiveness of the actual risk analysis procedure, an expert roundtable will take place in on the 7th of April 2014, at the OPERA Research Centre offices in Brussels.

The objective of this expert consultation is to discuss the principles and socio-behavioural factors that need to be taken into account in the processes of risk analysis policy making, in order to produce a better estimate and more effective response to the risks associated with the use of chemicals. We would like to explore how factors like people's knowledge, thoughts and behaviours regarding risks interplay and may impact on the whole risk analysis process, throughout all the phases of risk assessment, risk management and risk communication. This is meant to make a contribution to improving the qualitative component of the risk assessment process in future risk analysis policy frameworks.

The ultimate goal is to better inform decision making, also taking into account socio-economic factors which impact on risk assessment policies, risk management and risk communication.

The expected outcome is to collect opinions on:

- principles of how to combine qualitative and quantitative information within the risk assessment analysis policy frameworks;
- recommended socio-behavioural categories of factors that should be taken into account in the future development of risk analysis policies.

The results will be reflected as part of the HEROIC “white paper” on capacity building, a document that meant to collect ideas and recommendations for policy development.

For more information, please contact Maura Calliera (maura.calliera@unicatt.it) or Alexandru Marchis (alexandru.marchis@operaresearch.eu).

Publication

The position paper **“Perspectives for integrating human and environmental risk assessment and synergies with socio-economic analysis”** is now published on *Science of the Total Environment*, 456-457 (2013) 307–316.

This paper describes the scope and prospects of the integrated assessment and of including socio-economic analysis in this risk assessment. From this analysis a number of recommendations for the next research steps can be derived.

The abstract is available on the HEROIC website.



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Next Issue

The next and last issue will feature other news and documents developed by the HEROIC Consortium and a feedback of the Expert Roundtable on socio-behavioural factors in risk analysis organized in Brussels.

How to contact us

For more info

Visit us at: <http://www.heroic-fp7.eu> or send us a e-mail at: info@heroic-fp7.eu

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