

The task of LRI is to reduce the uncertainties raised by innovation to better understand issues around the introduction of new products and technologies. It thus helps industry and regulators to take appropriate decisions.

One of the major successes of LRI is the close cooperation of a broad, multi-disciplinary network from around the world, notably Europe, the US and Japan. The cooperation includes government agencies, academics and non-governmental organizations. Today LRI runs along three priorities: integrated testing strategies, health impacts of complex environments and acceptance of new technologies and products. Here we highlight just a few of the many issues addressed by LRI.

Human Biomonitoring

The LRI network flags emerging issues at an early stage, as with nanotechnology for example. And the first LRI projects on human biomonitoring (HBM) started in 2002 – long before the method was sensationalized in media campaigns. Biomonitoring is an established tool in the occupational health management of the chemical industry. Together with data on exposure and hazard it can give valuable information needed for appropriate risk management.

The European Commission identified HBM as a key element in its Environment & Health Action Plan. A coherent and harmonized approach to HBM in Europe is the objective of the “Consortium to Perform Human Biomonitoring on European Scale” (COPHES); this consortium comprises 35 European partners including Cefic, which makes a strong contribution through LRI’s extensive know-how. Bringing together scattered national activities on the cross-border issue of environmental impact on human health will also improve the workability, broad implementation and effectiveness of a sound chemicals management.

Alternatives to Animal Testing

Another important topic under the LRI umbrella is the search for alternatives to testing the safety of chemicals on animals. This issue is being driven from all sides: scientific, social, economic and ethical. Cefic supports the so-called “3Rs principle”: Reduction – Refinement – Replacement of animals in toxicity testing. However, public and legislative concerns about the need to provide alternatives are countered by the fact that testing requirements are increasingly mandatory under new legislations such as REACH.

Early on LRI has been engaged in the development and acceptance of globally harmonised test methods in cooperation with the OECD. LRI is also sponsoring workshops and funding projects to develop data management tools which reduce reliance on animal testing. This has resulted in the development of tools such as “ToxTree” and “ToxMatch”, which are now accepted tools for the implementation of REACH.

Endocrine disruption

Endocrine disruptors are substances that act like hormones and may have an impact on the hormone system. Milestones on the way to addressing this controversial issue are the five endocrine screening test guidelines adopted by the OECD in 2009.

Developed with the key support of LRI, these guidelines serve as a validated and globally harmonised science base for regulations around the world such as the EU’s REACH and crop protection directives. Says Gernot Klotz, Cefic’s Executive Director for Research & Innovation: “LRI has dedicated years of hard work to developing globally accepted and validated scientific test methods; without this effort, this debate would still be languishing in emotional rhetoric – which, in the end, does not advance consumer safety”.

LRI Tools

LRI is now offering a compilation of useful tools for REACH compliance, regulatory filings, and academic or research purposes. Already used and recommended by regulators, this toolbox can be consulted online and is available to all. It is an effective means to make better use of the work done by industry, regulatory and academic scientists in the field of chemical safety.

One example is the LRI-sponsored Geography-referenced Regional Exposure Assessment Tool for European Rivers (GREAT-ER). The German Federal Environmental Agency has recommended GREAT-ER be used for environmental exposure assessment of industrial chemicals.

LRI Award

The LRI Innovative Science Award is presented every year to an early career researcher with a groundbreaking research project in toxicology, eco-toxicology or exposure science. This annual award provides a € 100,000 grant. The 2010 award went to Juana Maria Delgado Saborit from the University of Birmingham, UK, for her research on volatile contaminants in consumer products. With this award, the chemical industry contributes to creating a competitive and knowledge-based society in Europe, as past winners’ projects clearly demonstrate.