

Integrated Assessment of Health Risks from Environmental Stressors in Europe

INTARESE

The INTARESE Project

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- **Rationale: integrated assessment is needed to support:**
 - Earlier and more balanced response to risks in the face of complexity
 - Integration of health into other policy areas in support of sustainable development
 - More cost-effective and accountable policies by better targetted decisions, multi-gain actions and sharing of costs
 - More participatory and consensual approaches to policy to ensure buy-in by stakeholders
- **The aim**
 - To develop, test and apply a methodology for integrated assessment of health risks from environmental stressors, in order to support policy in the EU

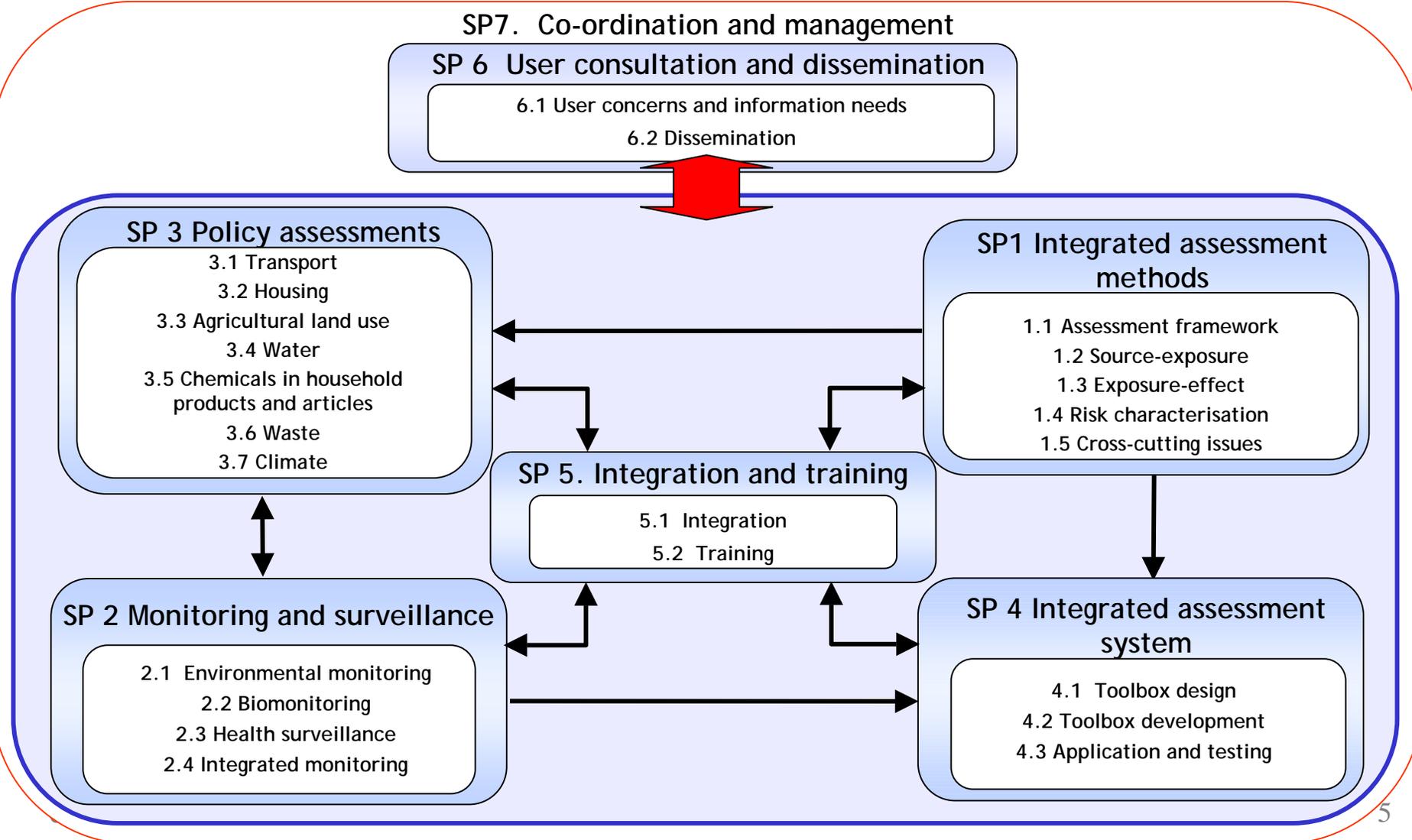
What INTARESE will provide (1)

- **Framework for integrated risk assessment:**
 - Source-exposure
 - Exposure-health effect
 - Risk characterisation
 - Uncertainty, vulnerability, interactive and cumulative effects
- **Improvements to monitoring**
 - Adequacy assessment of current systems (environmental, biomonitoring, health) for health risk assessment
 - Targetted enhancements of methodology
 - Improved data linkage and intercomparability

What INTARESE will provide (2)

- **Testing and demonstration of integrated assessment**
 - Transport
 - Housing
 - Agricultural land use
 - Drinking water
 - Household hazardous chemicals
 - Waste
 - Climate
- **Integrated assessment toolbox**
 - Framework builder
 - Best practice assessment guidance system
 - Risk calculator
 - Risk communication system

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- **Users**

- EU and international policy makers
- International agencies (IGOs, NGOs)
- National governments and agencies
- Industry
- Researchers

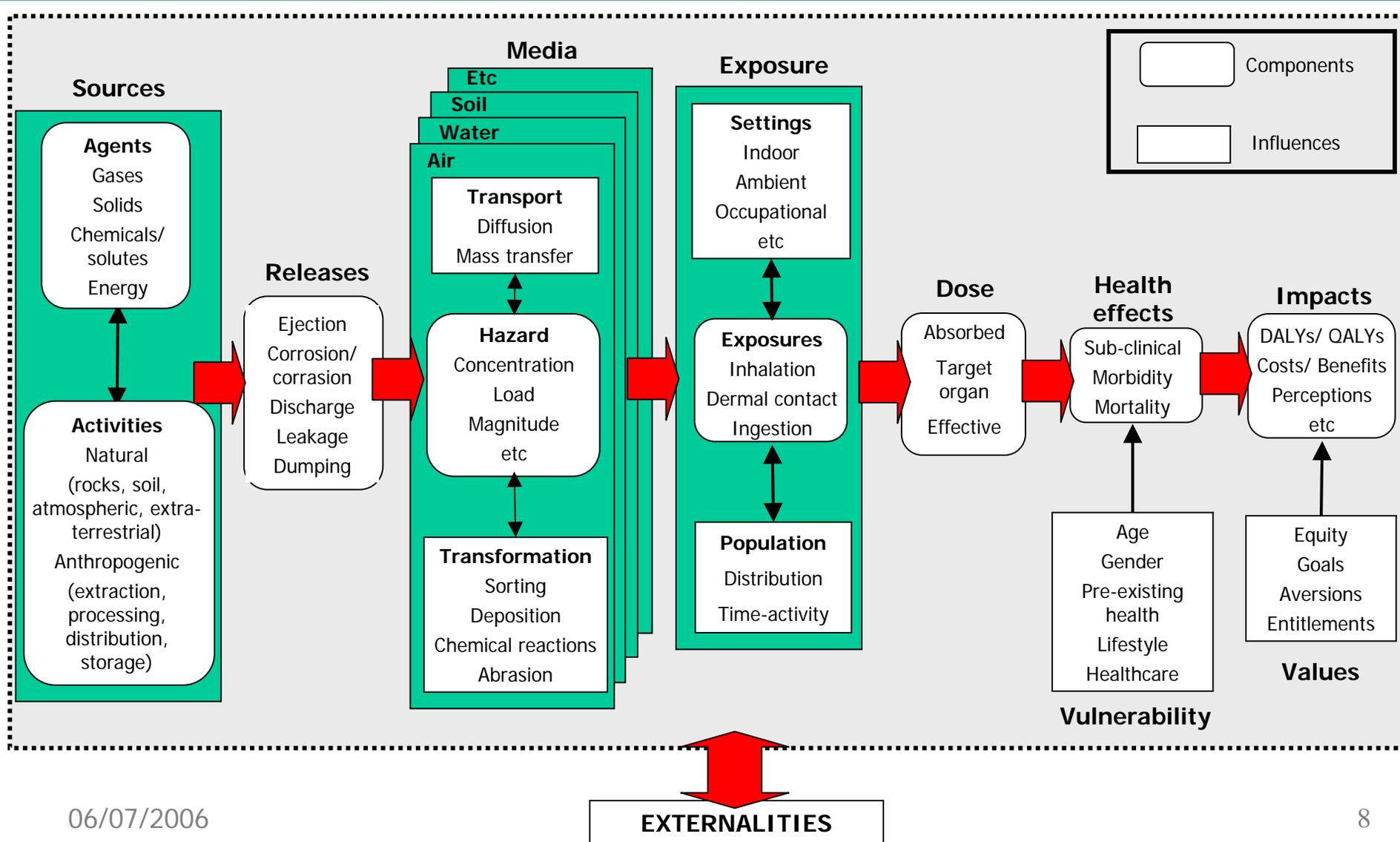
- **Uses**

- Policy assessment and comparison
- Technology assessment and comparison
- Environmental burden of disease analysis - e.g. international comparisons
- Health risk scenarios
- Early warning

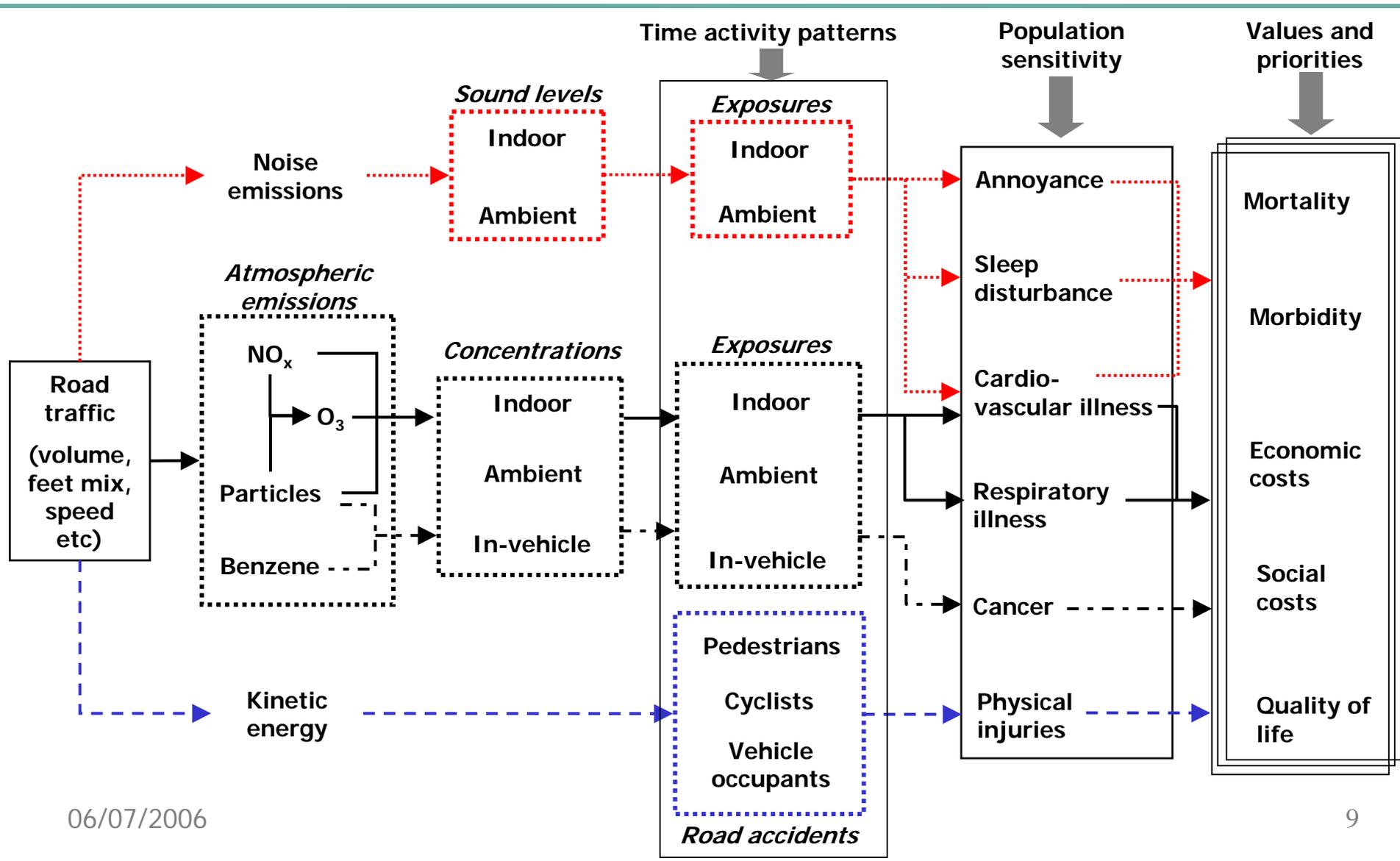
Integrating what?

- **Policy areas and issues**
 - Environmental, economic, technological, regional, social etc
- **Sources**
 - Agriculture, industry, transport etc
- **Stressors**
 - Pollutants, physical hazards etc
- **Media/pathways**
 - Air, water, soil, food etc; local/far-travelled
- **Settings**
 - Indoor/ambient
- **Population groups**
 - Geographic area, demographic/socio-economic sectors
- **Health outcomes and measures**
 - Acute/chronic, morbidity/mortality etc, health impact/cost

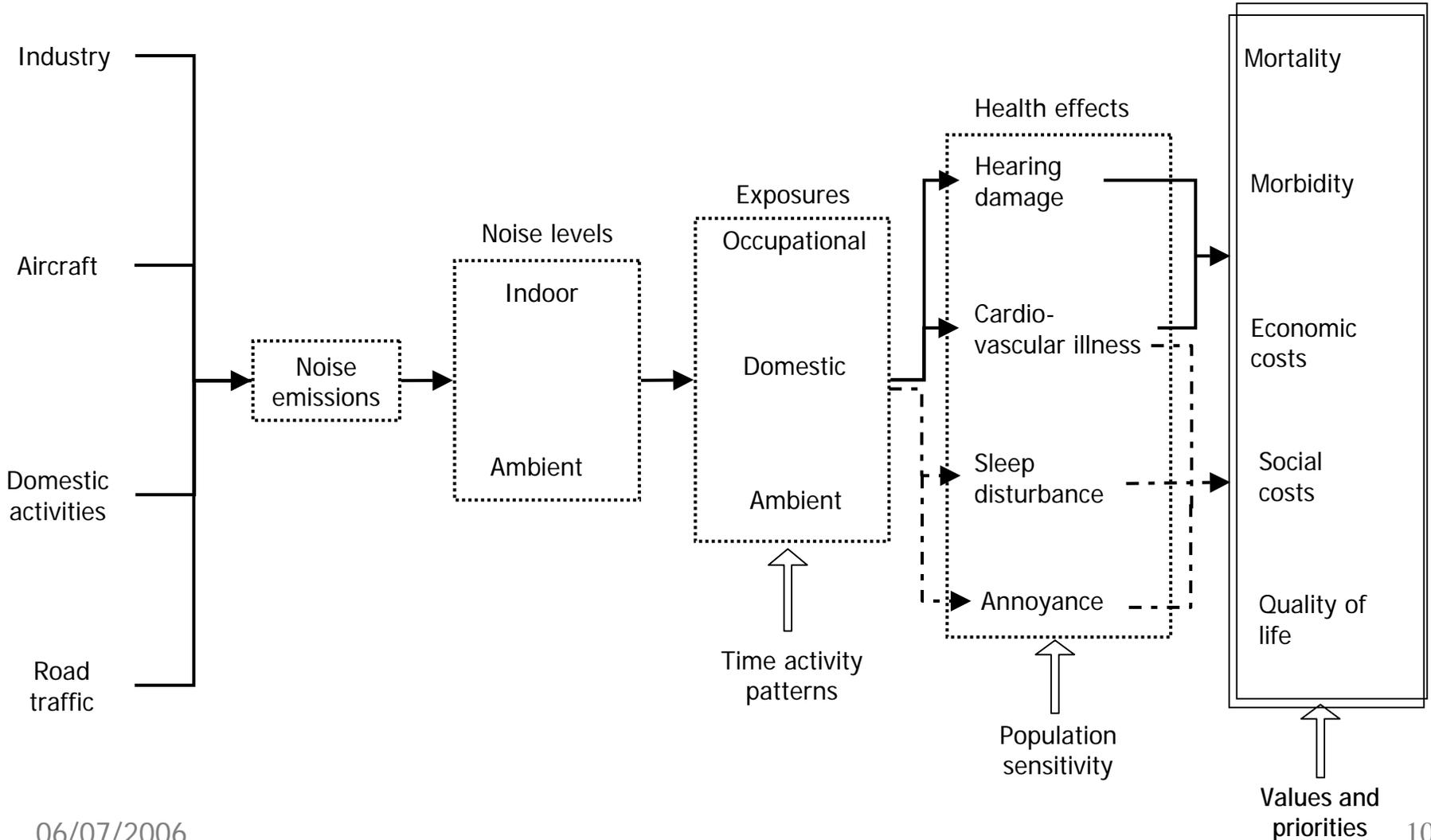
The full chain framework



An example of the full chain framework: road traffic



An example of the full chain framework: noise



The INTARESE challenge

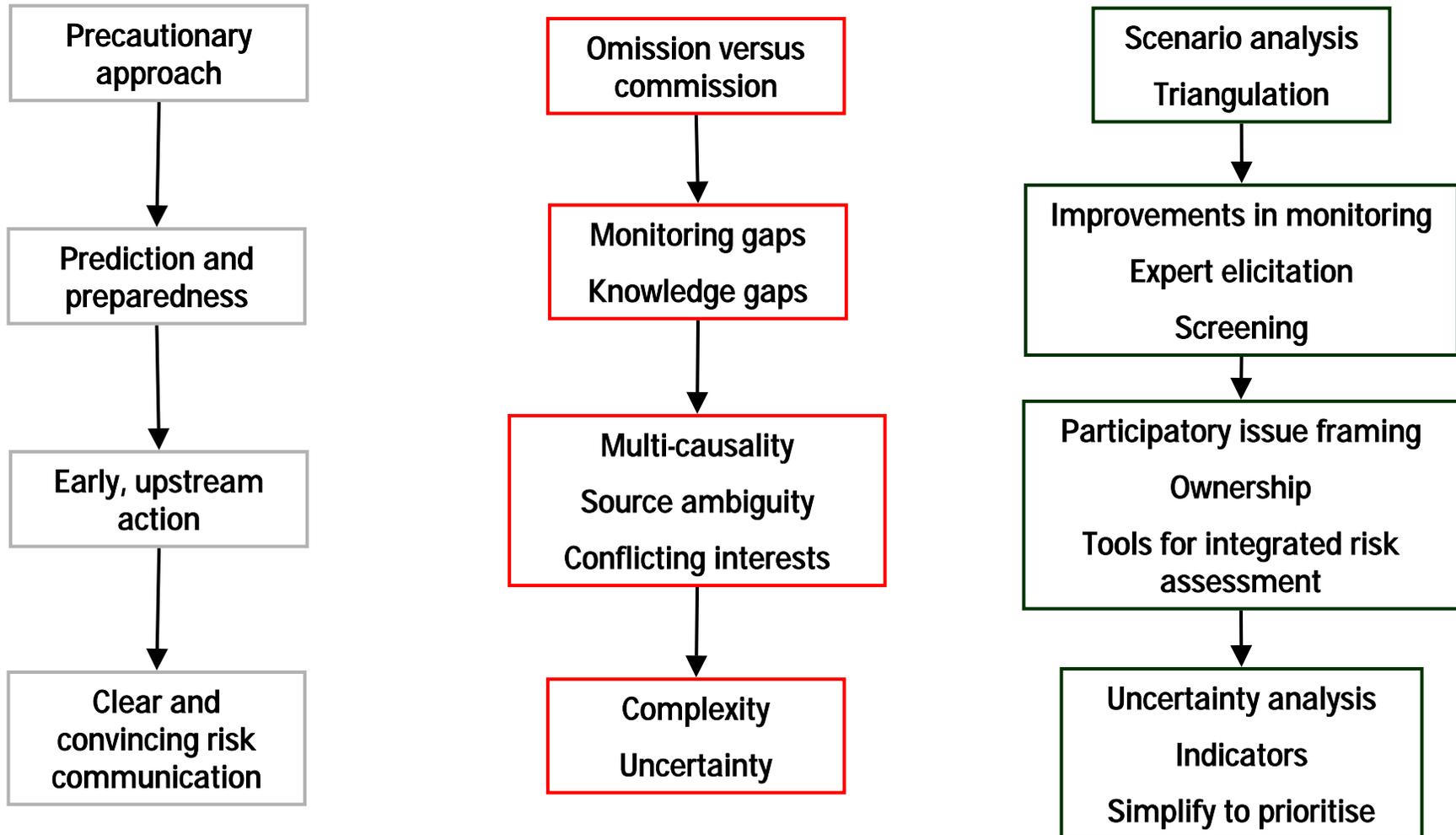
- **Complexity**
 - Multi-dimensional issues with complex cause-effect chains, heterogeneous populations
- **Uncertainty**
 - Indeterminate effects, large confidence intervals
- **Lack of monitoring data**
 - Gaps, biases and non-representativeness in exposure and health data
- **Research and knowledge gaps**
 - Dose-response functions, toxicology
- **Lack of consistent and effective tools and methods**
 - Poor exposure models, inadequate control for confounding
- **Inadequate or poorly specified indicators**
 - Poor, non-specific and unacceptable risk communication
- **Unforeseen problems and issues**
 - Emerging problems

The special challenge of emerging pollutants

- **Uncertain signals**
 - Background versus noise?
 - Monitoring gaps and biases?
- **Uncertain science**
 - How reliable are the assessments?
 - Reporting biases?
- **Uncertain response**
 - Lack of precedents
 - How reliable are the analogies?
 - How convincing is the response strategy?

Should we treat emerging pollutants as independent issues, or each a part of a societal system?

Meeting the challenge



- **Good risk management requires sound risk assessment**
- **Timely management of health risks requires predictive assessment, based on health-related (population-based) and consistent monitoring and modelling**
- **Cost-effective risk management requires integrated assessment**
- **Integrated risk assessment requires new (multi-factorial) methods for risk analysis and new (inter-disciplinary and precautionary) ways of thinking**
- **Effective use of the results of integrated risk assessment requires new (evidence-based, interdepartmental, inter-agency) ways of working**

- **INTARESE user network**
 - User consultation: needs and experiences
 - Dissemination network
- **INTARESE user forum**
 - Paris 2nd September 2006 – pre-conference workshop to ISEE/ISEA meeting
 - Speakers and participants welcome
- **For more information**
 - See www.intarese.org