

GDSI DTU Global Decision Support Initiative

An interdisciplinary knowledge center for risk, sustainability and decision support at the Technical University of Denmark.

CONTACT

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WHY THE GDSI?

The GDSI has been established in response to the tremendous challenges facing global society in its quest for sustainable development. Globalization, climatic change and diminishing resources are boundary conditions to which decision makers and stakeholders at all societal scales must react and adapt – and time is an issue. To cope with this situation necessitates science-based decision support with a focus on sustainability and risks as well as due consideration of the significant uncertainties and lack of knowledge affecting the outcome of the decision making.

HOW IS THE GDSI ORGANIZED?

The GDSI is an interdisciplinary knowledge hub on sustainability, risk and decision support established at the Technical University of Denmark. The main contributing departments include DTU Management, DTU Civil Engineering, DTU Compute, DTU Environment, DTU Food, and DTU Transport. The management of the GDSI is supported by an external advisory board which contributes to the strategic focus of the GDSI. In addition to the experts located at DTU, a Global Expert Network supports the GDSI with knowledge and expertise.

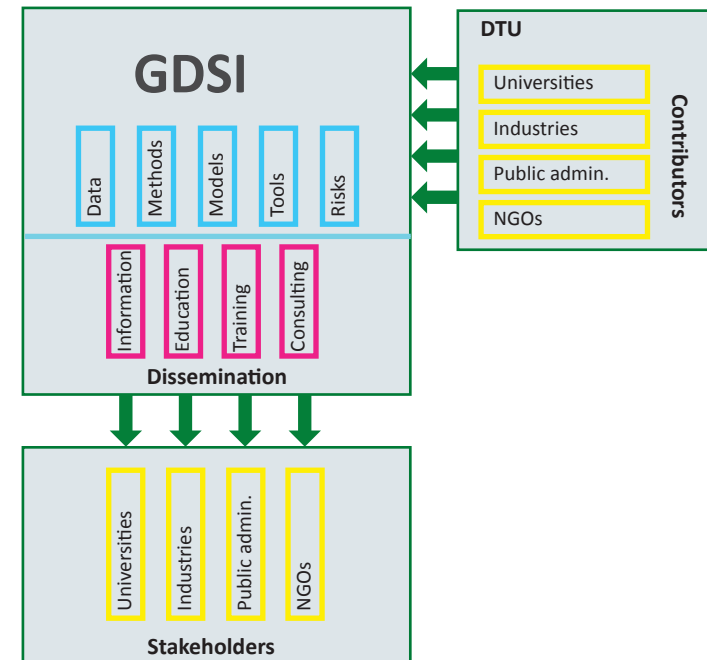
HOW DOES THE GDSI FUNCTION?

Through its deep understanding and experience with innovative technology and its implementation, the GDSI offers expertise, data, tools, results as well as educational support for sustainability and risk-informed decision support to decision and policy makers in industry, national and supranational organisations, authorities, NGOs and private stakeholders.

Decision and policy makers at all scales in the global society may significantly benefit from the GDSI through support in understanding their decision context in terms of risks and effects on sustainability as well as on options how to manage these efficiently and safely in the face of climatic change, diminishing resources and significant uncertainties. Examples of decision contexts where the GDSI can be of support include:

- Quantitative sustainability and risk-informed decision support in the planning, operation and decommissioning of urban settlements, infrastructures, energy systems, mining, and oil and gas exploitation activities.
- Management of natural disasters such as floods, typhoons and earthquakes at local, urban, regional and national scales.
- Science-based management of food production with a focus on lowering the disease burden from food.

- Life safety management in hazardous industrial and transport activities.
- Climate adaptation of infrastructure and the built environment.
- Integral management of fresh water resources including ground water extraction, purification, distribution and regaining.
- Management of waste materials and products including handling, cleaning, storage and recycling.



WHAT ARE THE GDSI'S CORE ACTIVITIES?

- **Advice** to national and international decision makers from industries, national and supranational organisations and authorities faced with complex decision situations.
- **Education** in sustainability and risk assessment and science-based decision support at all curricular levels and across all technical disciplines.
- **Innovation** in scientific research on decision support with a particular focus on cross-disciplinary issues. This includes the formulation of a generic theoretical framework for decision support, an open IT-platform to support the framework and its application to a large number of practical domains.