

*Public perceptions of science, technology
and risk and their influence on
managing radioactive waste*

Kjell Andersson

Karita Research

International Atomic Energy Agency Scientific Forum

**RADIOACTIVE WASTE:
MEETING THE CHALLENGE**

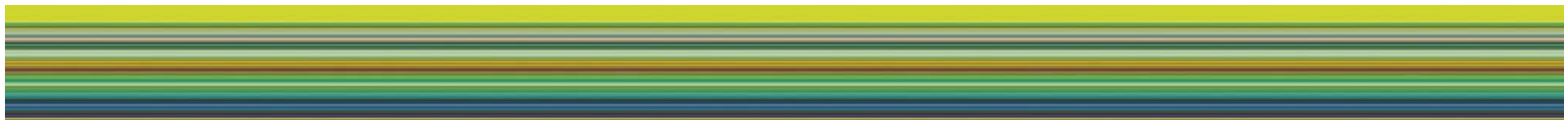
Science and Technology for
Safe and Sustainable Solutions

23–24 September 2014, Vienna, Austria



Technology driven areas tend to create:

- **enthusiasm and narrow framing, in early days**
- **concerns, negative events, media debates, conflicting interests, frustration, and the framing found irrelevant, at later stages**
- **fragmentation by interest groups**
- **backlash, and the decision making system gets paralysed**



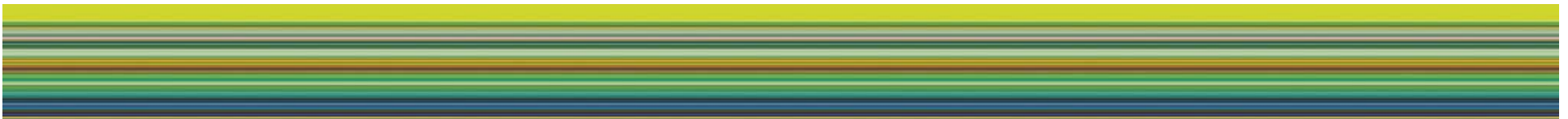
What is “risk” ?

Expert tool: Risk informed decision making

Risk can be calculated as a product of probability and consequence

The mathematical definition is suitable for expert analysis and quantitative regulations, but is often too narrow for policy formulation since it does not take societal values into account

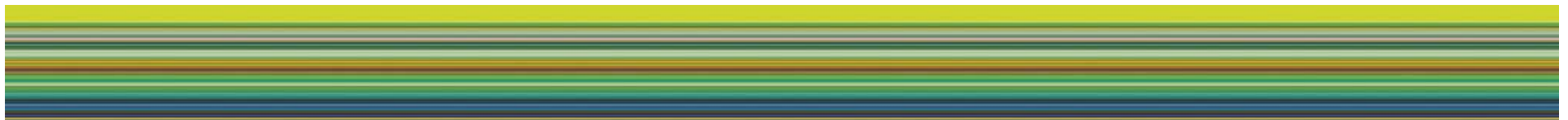
Laypersons' perception of risk is different from the expert analysis



What is “risk” ?

Laypersons' perception of risk depends on factors such as:

- **Voluntary versus involuntary risks**
- **Can I influence the outcome if there is an incident?**
- **Possible consequences more important than product of probability and consequence**



A market of arguments

Stakeholders:

How to market factual information?

A matter of resources rather than having "the best argument"

Political decision makers:

How to evaluate arguments of stakeholders and lobbyists? Personal trust?

Lack of overview

Government agencies and experts:

How to gain interest and trust in own evaluations?

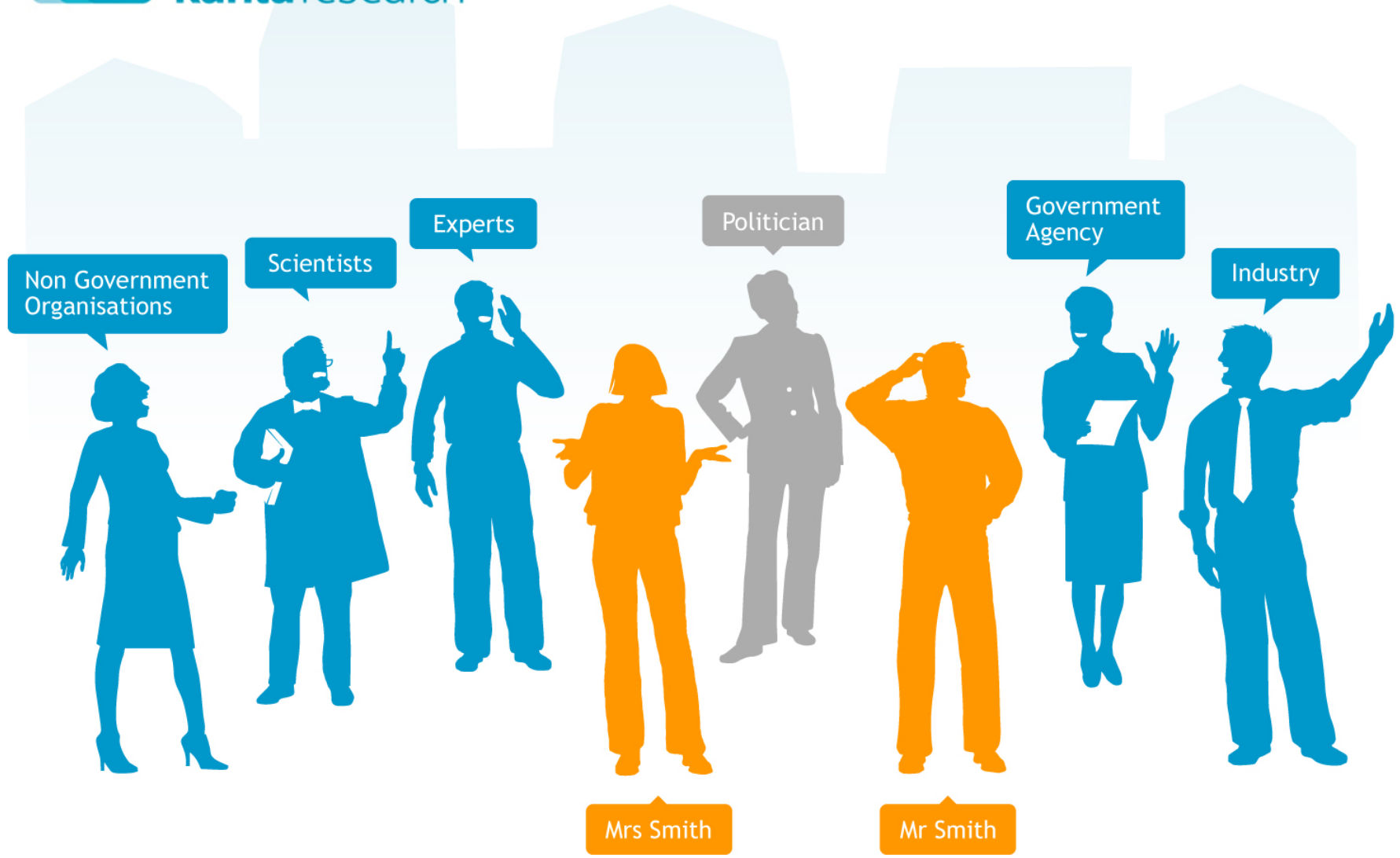
Public participation and consultation - at the expense of expert integrity?

Public:

Information overflow but limited attention span - who shall I trust?

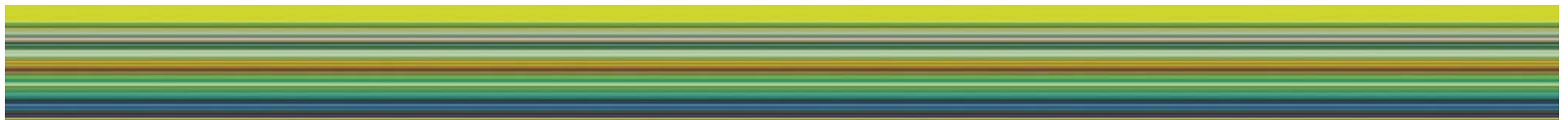
No real challenging of arguments – low level of awareness

Frustration on all sides



Trust

For social acceptance there must be a sufficient level of trust among the public and key stakeholders for implementing and regulating bodies including local authorities and political leaders



1st approach – information

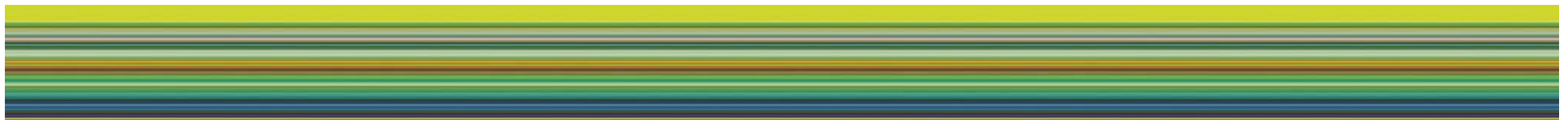
Of course politicians and citizens at large need to be informed

BUT

people are already over flooded with all sources of information and cannot take more on board.

more information may in fact reinforce negative opinions

More or less hopeless!



2nd approach – participation

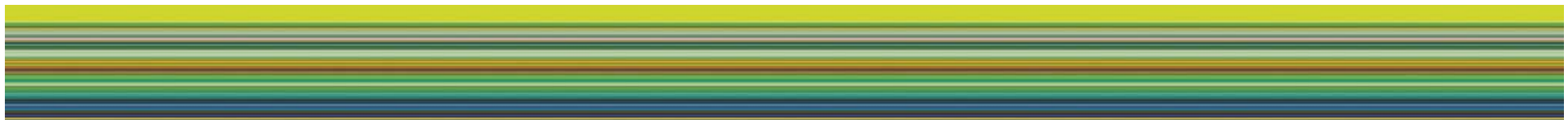
Social and behavioural sciences were brought in and:

Participation became the solution, with consensus and acceptance as anticipated results.

Some concerns though:

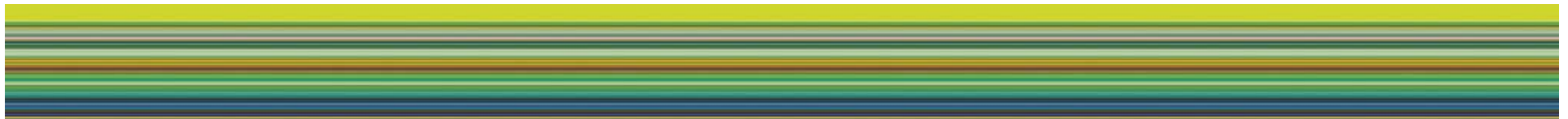
- Public has limited time and attention span
- Methods are often expert driven
- NGO:s tend to dominate the scene - or they stay away
- Inadequate challenging of stakeholder arguments
- Results are is often lacking democratic accountability

Both practical and democratic problems



**We want high quality decisions
which requires:**

- **Clarity of all issues**
- **Broad perspectives**
- **Many angles to the problem**
- **Challenging of arguments**



Transparency

The Riscom model

Truth/efficiency

Objective world

Scientific methods and technology

Are we doing this right?

Legitimacy

Social world

Norms and personal relations

“Is this right and fair?”



Authenticity

Personal integrity and
organizational identity

No hidden agenda

Conclusion

Safety is a necessary but not sufficient requirement for the implementation of nuclear installations as there are political and social challenges which cannot be overcome without a proactive, systematic and comprehensive programme for public and stakeholder involvement.

Stakeholder involvement is not decision making but a way to create clarity for the sake of high quality decisions.

