

22nd Exchange Meeting EIG EURIDICE

Involvement of local stakeholders in the research and development of monitoring strategies – feedback from the EC project Modern2020

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With thanks to:
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Introducing the Modern2020 project

- **General project aim:** Develop monitoring concepts and technologies to observe repositories for high level nuclear waste that will take into account the requirements of specific national contexts and public stakeholder expectations
- **Transdisciplinary EU project:** Project partners with techno-scientific expertise, social scientists, local public stakeholders (BE, FI, SE & FR)
- **Social Science – Research team:**
 - BE – University of Antwerp: Anne Bergmans, Axelle Meyermans, Pieter Cools, Anna-Laura Liebenstund and Céline Parotte
 - SE – University of Gothenburg: Göran Sundqvist, Hannes Lagerlöf



Monitoring in geological disposal = a sociotechnical challenge

- **Geological disposal** = internationally agreed solution for nuclear waste
 - ✓ Aim of **passive safety**
- Development of **monitoring technologies**
 - ✓ Opening up to **continuous vigilance**
 - ✓ Unclear relation to passive safety?
- **National differences** in the conceptualization of monitoring
 - ✓ Host rock and disposal concept, but also...
 - ✓ **Socio-political** explanations for these differences

Three topics of interest

1. **Differences and similarities** between four European NWMOs (BE, FIN, FR, SE) in their **understanding of monitoring**
2. Linking monitoring to questions of (dis)trust
3. **Public participation** in monitoring R&D

Key suggestions for public participation in R&D

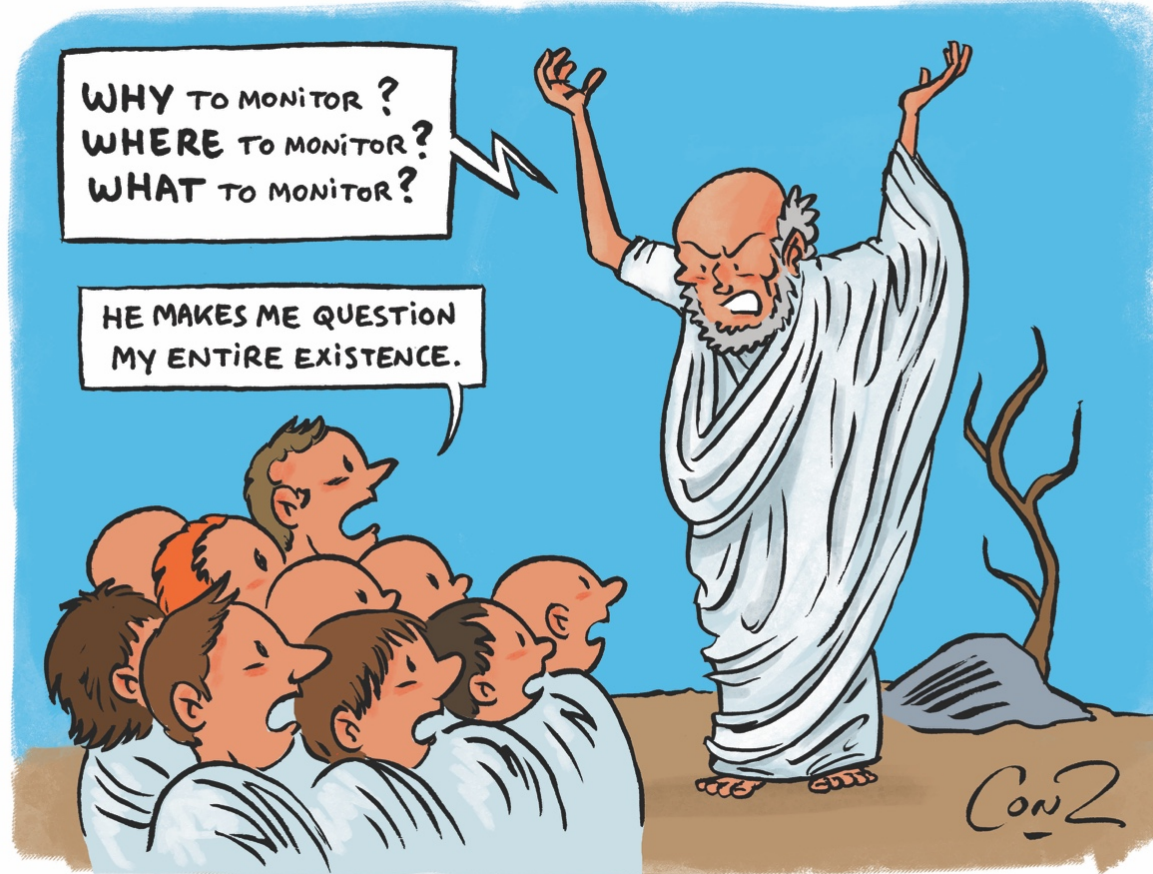


Organisation of local stakeholder participation within Modern2020

- Engagement of local stakeholders from Belgium, France, Finland and Sweden
 - ✓ STORA & MONA, Clis de Bure, Eurajoki municipality and Östhammar municipality
 - ✓ **'Liaison officers'** on the project level
 - ✓ Organisation of **'home engagement workshops'**
 - ✓ Online **'Delphi'** survey (two rounds)
 - ✓ **WP5 Workshop** with local stakeholders and technical experts





1. Striving for a consensus on monitoring?

AS THE ANCIENT PHILOSOPHER RADIUS ACTIVUS SAID:



1. Striving for a consensus on monitoring?

National comparison (based on D5.1, WP5, Modern2020)



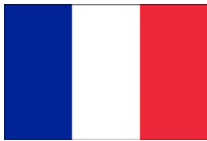

			
<p><u>ONDRAF/NIRAS'</u> <u>framing of monitoring</u></p> <p>Monitoring is necessary; but unclear about what exactly will be monitored</p> <p>Socio-economic + environmental monitoring</p> <p>Will most probably be related to demands of reversibility</p>	<p><u>Posiva's framing of monitoring</u></p> <p>Monitoring does not increase safety per se (<-> STUK)</p> <p>Debate on EBS monitoring ('indirect' monitoring)</p>	<p><u>Andra's framing of monitoring</u></p> <p>"Surveillance": does the repository behave as expected?</p> <p>Monitoring is ensured during the operational phase</p> <p>Some connection with demand of reversibility</p>	<p><u>SKB's framing of monitoring</u></p> <p>Environmental monitoring since several years already</p> <p>Passive safety has been proven in advance by quality control systems</p> <p>Monitoring should not interfere with passive safety goals</p>

1. Striving for a consensus on monitoring?

- Within Modern2020: aim of reaching a ***technical*** **consensus** on monitoring
 - ✓ Resulting from ***political*** ambitions → political and technical consensus are **mutually supporting** each other
- Advantage: reaching a **scientific consensus**
- However, risk of **concealing “political” interests**

2. Monitoring and *trust*

- Geological disposal: **delegation of trust** and safety to geology
- Monitoring: tool for **trust-building**?
- **Interviews and participatory observation** with involved local stakeholders

			
<p>Surface disposal for low-level waste in Mol/Dessel → certain level of mutual trust</p> <p>Conditional</p>	<p>Culture of trust in the nuclear expert</p> <p>Participation on the technical level perceived as superfluous; however need of getting informed</p>	<p>General lack of confidence towards responsible NWMO</p> <p>Rather disinterested in monitoring R&D (more concerned with general waste disposal process)</p>	<p>Vital trust of local community in SKB</p> <p>Importance of the established veto right → more active role in NWM</p>

What kind of local stakeholder engagement in R&D?

- Conclusions from **survey** results
 - ✓ **Decisions about specific technical elements** should be left to technical experts
 - ✓ However, local stakeholder engagement remains important, because of
 - Right to **be informed**
 - Asking **critical questions**
 - **Encourage technical experts** to take local stakeholders' remarks, comments into account and to 'do the best job they can'

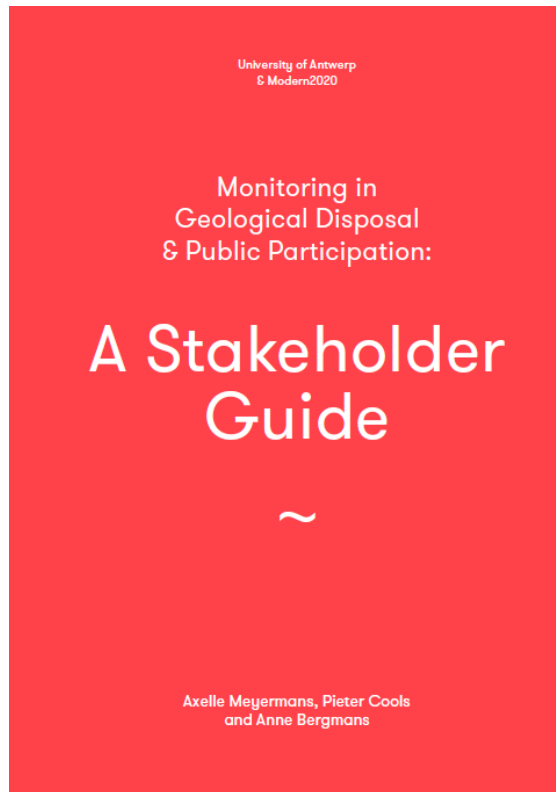
Yet, open questions remain:

- **Discrepancies** between local stakeholders and technical experts (and between themselves)
 - ✓ Should local stakeholders be **involved on the technical/engineering level** of a specific R&D project?
 - 85% of technical experts disagree >< 44% of local stakeholders agree
 - ✓ Local stakeholder involvement has the **potential to improve the design** of monitoring systems.
 - 35,5% of local stakeholders agree >< 9,1% of technical experts agree
- Carefully assess on **what topics**, in **what phases** and **for what reasons** citizen stakeholders should be engaged → There must be something to **negotiate!**

Guidance on how to implement public participation in technical programmes

1. Be sensitive towards **consensus**
 - ✓ Acknowledge what is not agreed upon
2. Be sensitive towards **delegation of decision power to technical experts only**
 - ✓ Depending on level of trust
3. Be sensitive towards **what is opened for discussion**
 - ✓ How to discuss (socio)technical issues with local stakeholders?
 - ✓ Avoiding 'tokenistic' participation

...about repository monitoring and public participation in R&D



English and French version on <http://www.modern2020.eu/>

Thank you for your attention!
Questions, remarks?



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