

International Intercomparison of Radon: Results

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Concern About Agreement Internationally

- At our symposium in 2015 in Minneapolis, AARST personnel met with representatives from European radon associations.
- There was concern that radon reference labs internationally were drifting from agreement with one another.

Concern About Agreement

Internationally

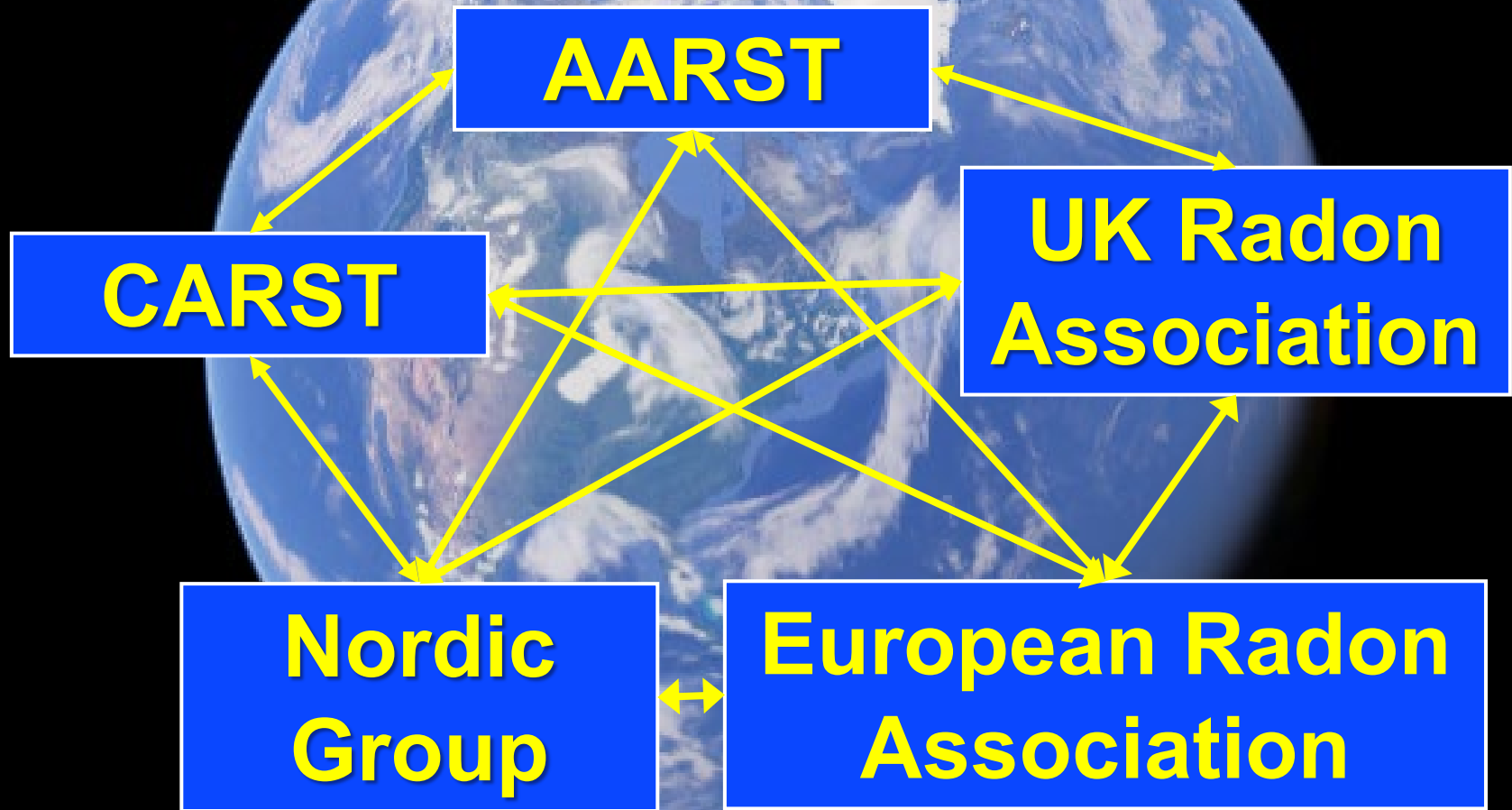
- European radon community relied on intercomparisons with PTB in Braunschweig, Germany.
- PTB ceased providing a reference radon concentration.
- Concern that countries were drifting from agreement.



Concern About Agreement Internationally

- This led to the establishment of the **Coalition of International Radon Associations (COIRA)**.
- This established an international group that could work together on various projects; the first of which was an international intercomparison of radon reference laboratories.

COIRA Members



Importance of Intercomparisons

- Decisions are made based on radon measurements; epidemiology, standards, regulations, remediation, etc.
- It is vital that all entities, worldwide, providing radon references and measurements are accurate and in agreement with one another.
- Confidence in accurate measurements can only be achieved with formal programs of intercomparisons.

Coordinators of International Intercomparison Study

- **Melinda Ronca-Battista (AARST)**
- **Jose Luis Gutierrez Villanueva (ERA)**
- **Pam Warkentin (CARST)**

Traveling Standards

- **Three AlphaGuard CRMs were used as traveling standards.**
- **The monitors were calibrated by the manufacturer and lent to the project.**



Traveling Standards

- The traveling standards were sent to the participants where they were exposed in radon chambers.
- The participating labs sent their data to the coordinators for comparisons with the measurements of the standard CRMs.



Participating Labs/Chambers

- **Australian Radiation Protection and Nuclear Safety Agency**
- **Environmental Protection Authority of South Australia**
- **Bowser-Morner, Inc. – US**
- **Health Canada**
- **Kansas State University – US**
- **National Institute for Nuclear, Biological and Chemical Protection – Czech Republic**

Participating Labs/Chambers

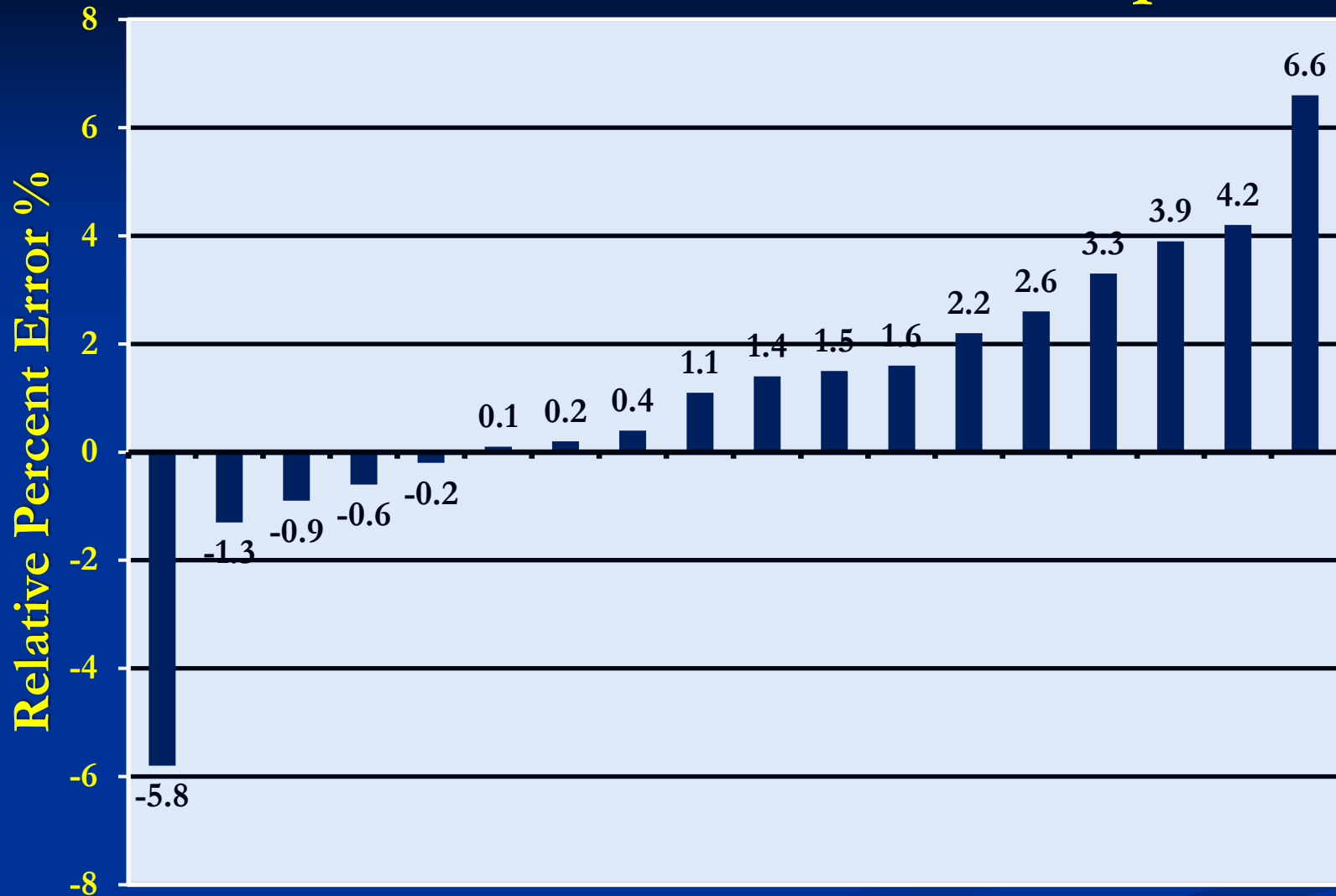
- **National Radiation Protection Institute – Czech Republic**
- **Public Health England**
- **Pylon Electronics Inc. - Canada**
- **Radiation Safety Institute of Canada**
- **Swedish Radiation Safety Authority**
- **TCS Industries, Inc. - US**
- **University of Cantabria – Spain**

Stability of Transfer Standards

- Melinda did several analyses of the data showing that the three transfer standard CRMs remained stable during the entire study.
- The data showed that they maintained agreement with one another and that they maintained agreement with a reference.



Results of International Intercomparison



Many Thanks

- To the coordinators
- To Bertin for donating the use of the AlphaGuard monitors
- To you for attending this presentation.
- Any questions?