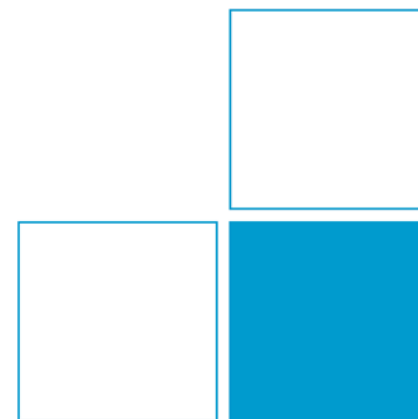


*An Introduction to **PTB** and Metrology*

Dr. Thomas Bruns



Braunschweig:

- 1400 Employees
50% Sci. & Eng.
- 6 Science Divisions
- 1 km² of area



Berlin (2 locations):

- 500 Employees
50% Sci. & Eng.



National Metrology Institute: Example mass scale (kg)



National Metrology Institute: Example time scale (s)

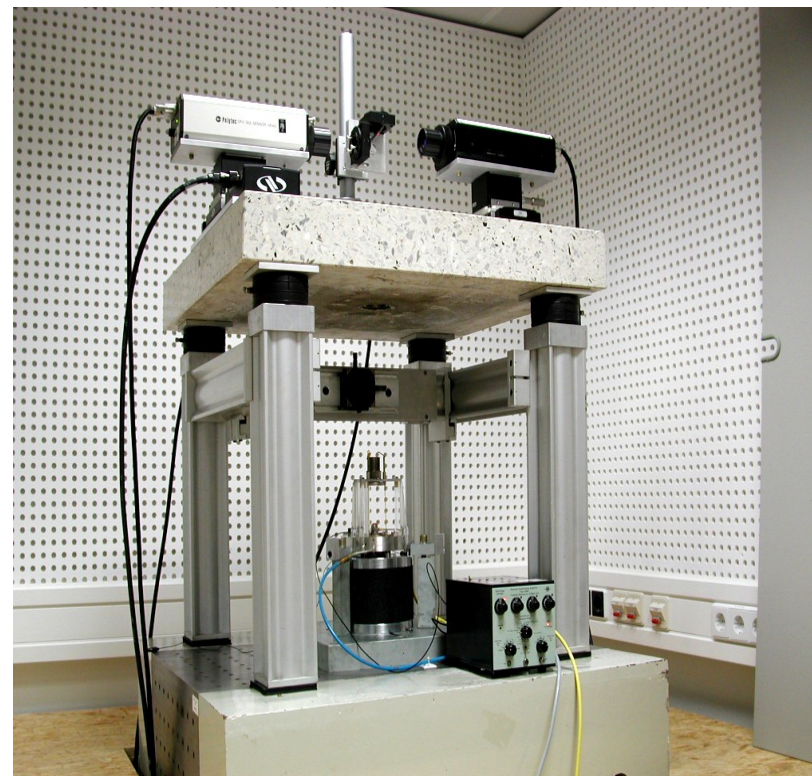
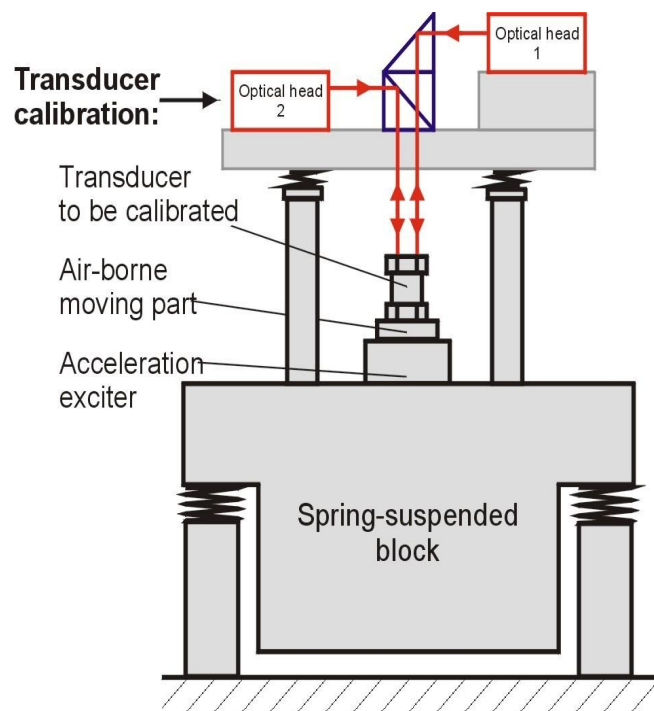


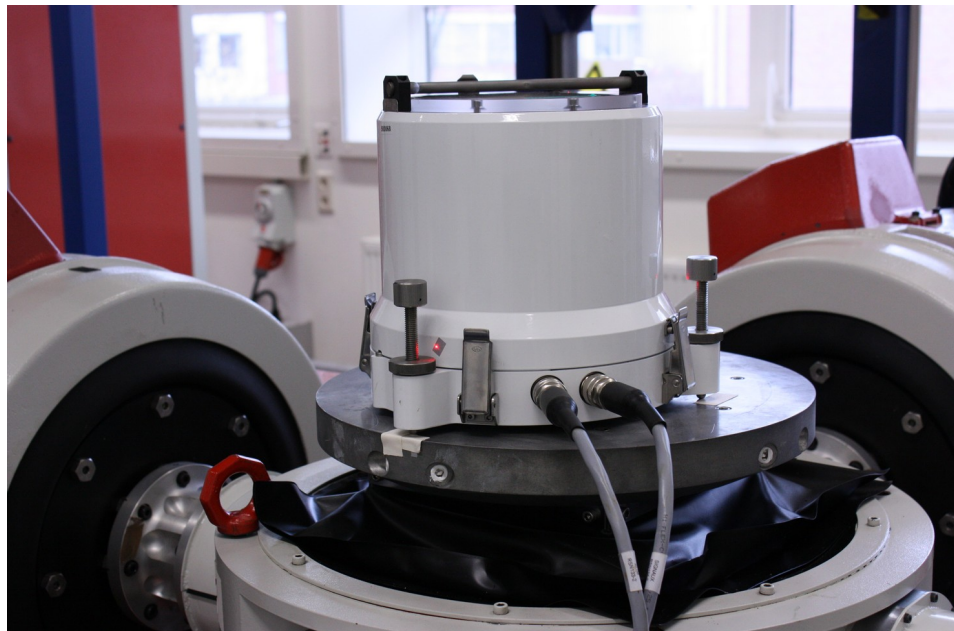
Atomic
fountain
clocks

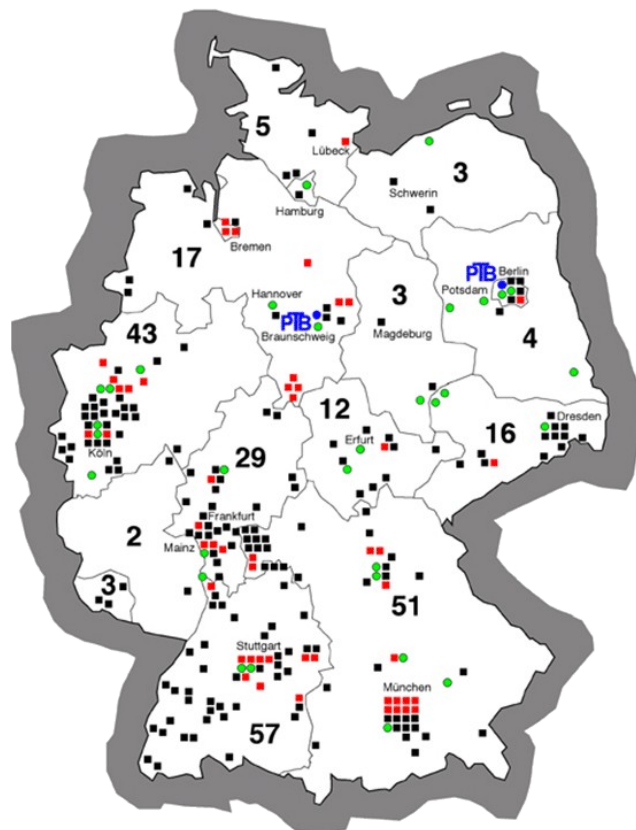
radio based
time
distribution
DCF 77



National Metrology Institute: Example acceleration (m/s^2)





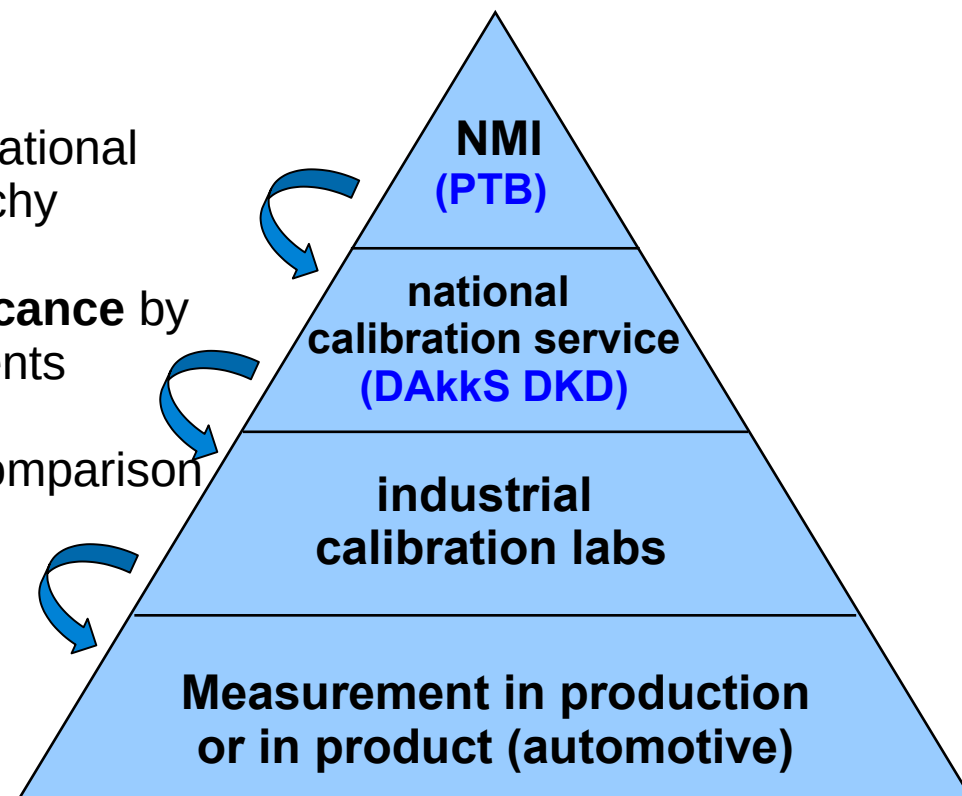


Kalibrierlaboratorium
■ in Großunternehmen
■ in kleinen und mittelständischen Unternehmen
● bei Sonstigen (TÜV, Uni., Behörde usw.)

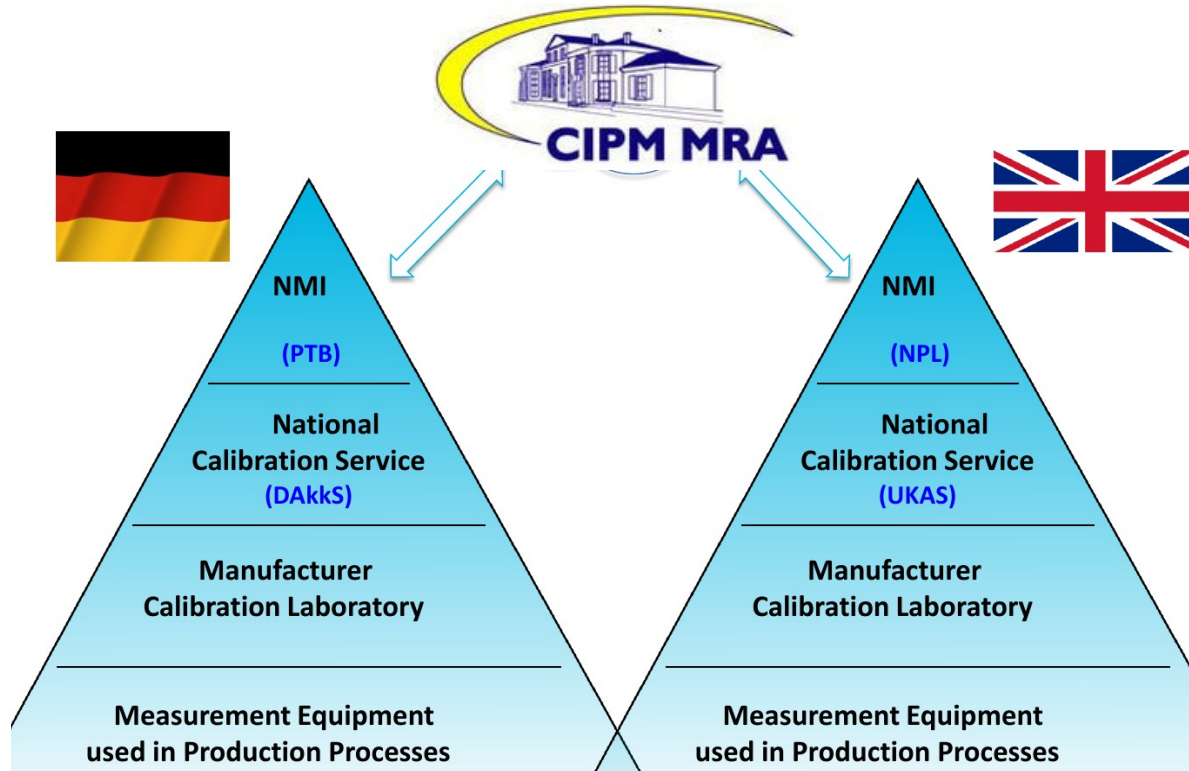
Traceability by national
calibration hierarchy

Quality assurance by
on-site assessments

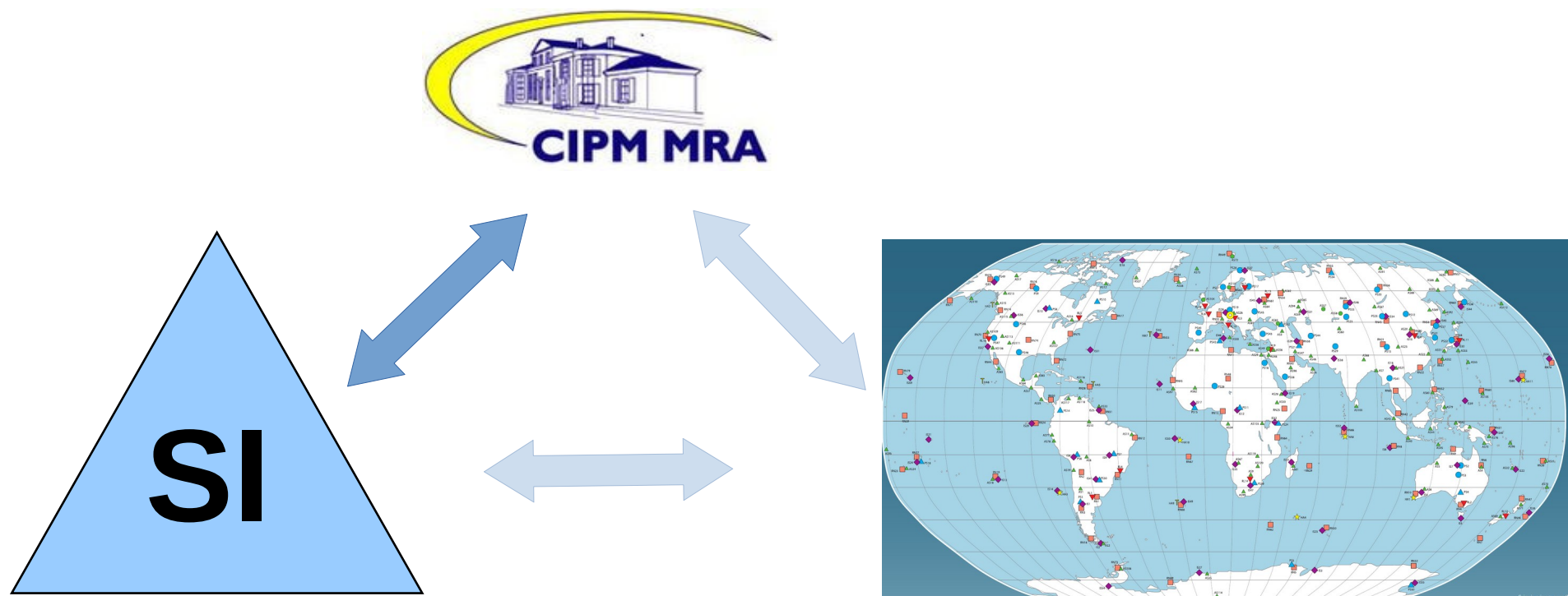
Monitoring by comparison
measurements

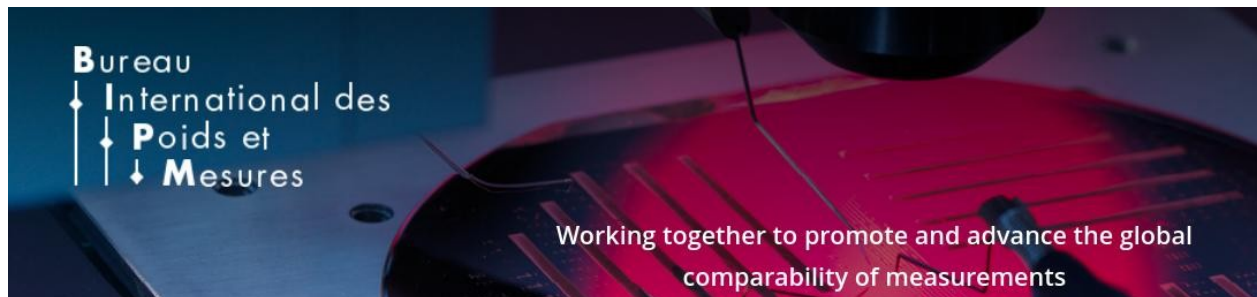


Mutual international acceptance:



Traceability for the IMS:





The BIPM-CTBTO Practical Arrangement

Following the CIPM Decision CIPM/108-38 of October 2019 the Practical Arrangement and the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty on collaboration on the metrological traceability of measurements of infrared radionuclides was signed by Dr. Lassina Zerbo, Executive Secretary of the CTBTO.



<https://www.ptb.de/empir2020/infra-auv/home/>