EURAMET
European Association of National Metrology Institutes

Report of TC length

Highlights

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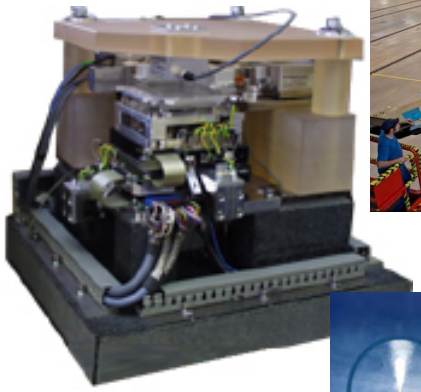
Outline

- EMRP call 2012
- EURAMET TC-L KCs

TC-L had Good success in EMRP 2012 Call

Accepted Length and *Length related JRPs*

Metrology for industry



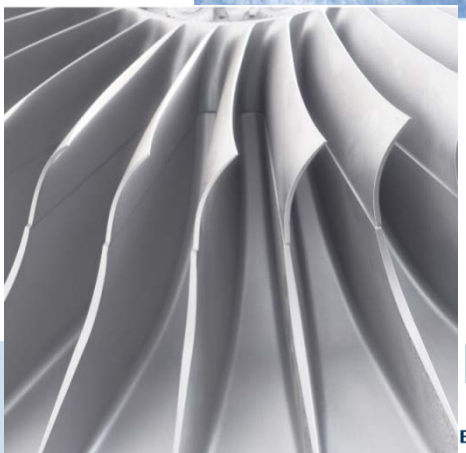
Large volume metrology in industry

Metrology for movement and positioning in six degrees of freedom

Multi-sensor metrology for microparts in innovative industrial products

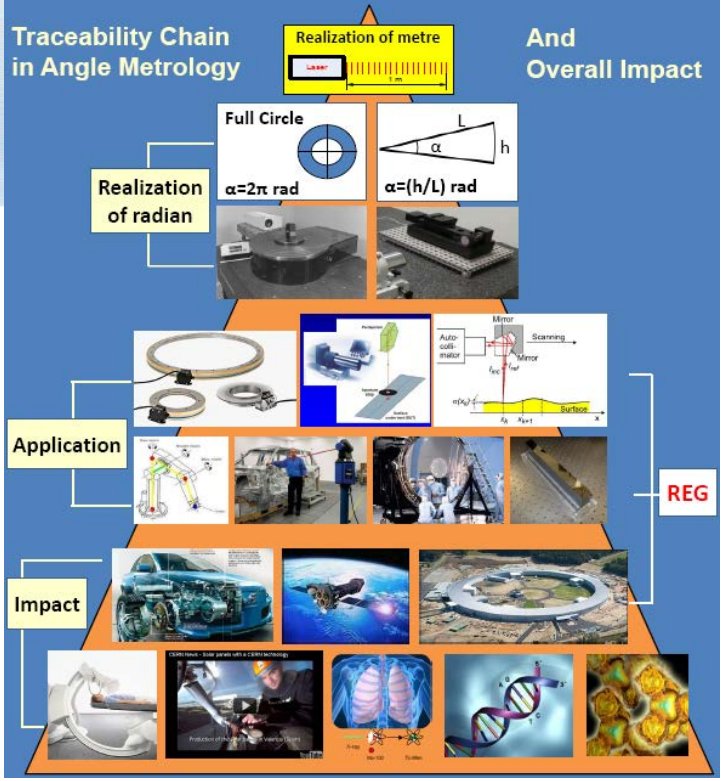
Traceable in-process dimensional measurement

Novel electronic devices based on control of strain at the nanoscale



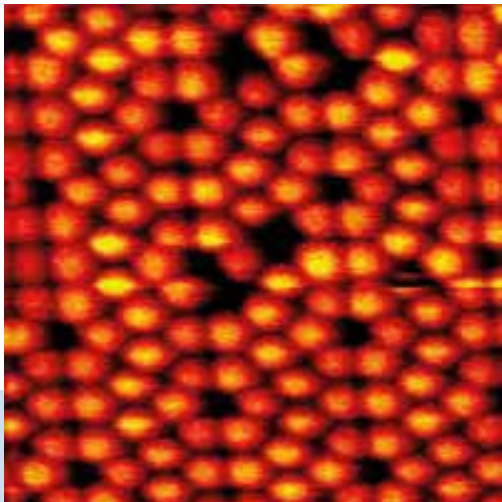
Metrology to enable high temperature erosion testing

SI broader scope



Angle metrology

Metrology for long distance surveying



Crystalline and self-assembled structures as length standards

Passed length JRPs had

- NMIs or DIs from 15 EMRP countries (total 22)
  - Good coverage of EMRP NMIs
- ~30 University of Research Institute partners
  - Including NIST, KRISS, NMIJ and CERN
- ~45 Industrial collaborators or partners

Industrial partners from:

- advanced materials
- aerospace
- automotive
- big science
- consumer electronics
- land survey
- machine industry
- manufacturing
- ultra precision manufacturing
- measurement instruments
- medical industry
- nanotechnology, nanotools
- photonics industry
- semiconductor industry
- vacuum technology

MRA key comparisons

First round of EURAMET KCs finished

- CCL decided 1997 to have 6 key comparisons for MRA needs
- Now 2013 original set of KCs by EURAMET is finished

Summary of progress of original set of EURAMET TC-L Key Comparisons

Identifier	Comparison initiated	Start of artefact circulation	End of artefact circulation	CCL approval given	Duration /a	Time for circulation /a	Time for analysis & approval /a
EURAMET.L-K1, gauge blocks	1997	1998	2000	2005	8	2	5
EURAMET.L-K2, long GBs	1999	2002	2005	2006	6	3	1
EURAMET.L-K3.1, angle	2005	2008	2008	2010	5	1	2
EURAMET.L-K4.2005, diameter	2003	2005	2007	2010	7	3	2
EURAMET.L-K5.2004, step gauge	2003	2004	2006	2012	8	3	5
EURAMET.L-K6, ball plate	2002	2004	2005	2013	10	2	7

- **Time for analysis is biggest reason for long durations**
- **Pilots need to have support & priorisation guidance from their managers**

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Thank you for your attention!