



Eurachem

A Focus for Analytical Chemistry in Europe



Ensuring the quality of analytical measurements – current support and future challenges

*Vicki J Barwick
Chair, Eurachem*



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Introduction

- What is Eurachem
- Eurachem aims and membership
- Eurachem activities
 - Guidance documents
 - Workshops
- Impact
- Future challenges

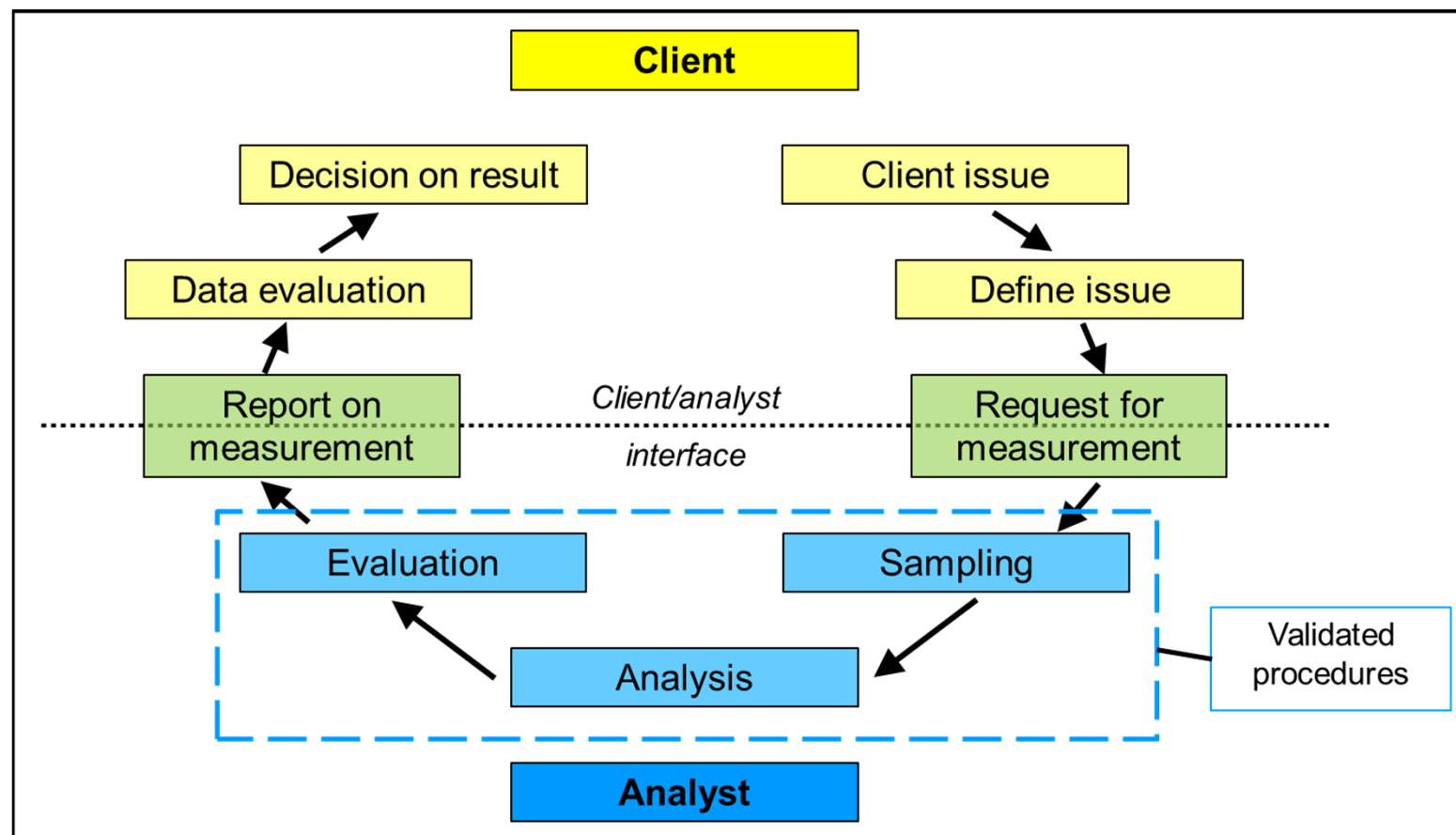


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Eurachem's focus is
measurement
quality...

...from
client issue to
decision on results





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What is Eurachem?

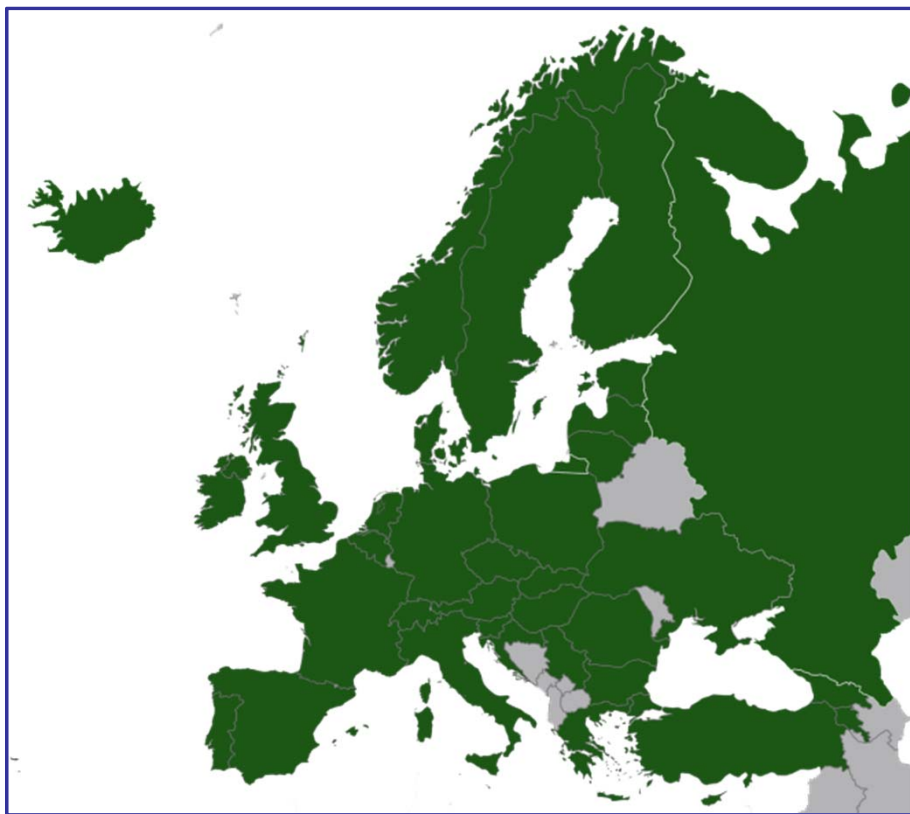
- A network of national and other organisations
- Founded in 1989
- A focus on analytical quality:
 - Traceability of measurement results
 - Method validation
 - Measurement uncertainty
- Providing guidance documents
- Organising workshops and training events
- Primary audience
 - Laboratories for analytical measurement
 - Accreditation bodies and related organisations



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Eurachem membership



- 36 members
- Full membership
 - Countries within EU and EFTA, European Commission
 - EU accession states
 - Countries with Association Agreement with EU
- Associate membership
 - Other European countries with good analytical chemical infrastructure



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National Eurachem networks

- Support dissemination of Eurachem's aims and outputs
 - National network formed specifically for Eurachem
 - Existing national association/organisation
 - Committee/sub-committee under, e.g. national chemical society

Eurachem.cz

Úvod | Profil | Výbor | Zpravodaj | Publikace | Připravujeme | Odkaz

Kontakt

Sídlo Eurachem-ČR z.s.

Pasteurova 3544/1
400 01 Ústí nad Labem

[více informací](#)

Nacházíte se na: [EURACHEM-ČR](#)

EURACHEM-ČR

Eurachem-ČR je národní organizace evropské podpoře kvality analytických měření a její organizací vědeckých, pedagogických a analytické chemie, sdružených ke společné činnosti v České republice na systémových opatřeních výsledků chemických analýz, osvětové činnosti v evropských zemích.

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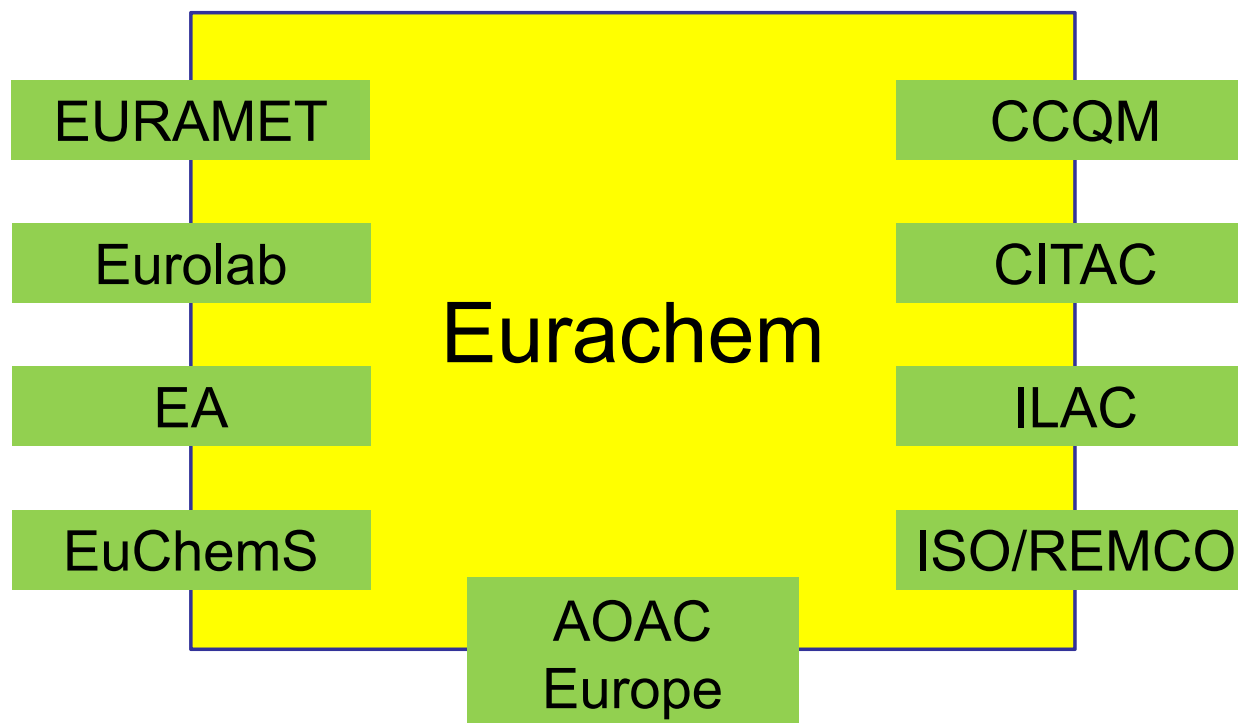
PÁGINA INICIAL | INTRODUÇÃO | CONTACTOS | GRUPOS DE TRABALHO | NOVIDADES | ACONTECIMENTOS | DISCUSSÃO | LINKS



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Major cooperations





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Currently active working groups

Eurachem's activities are delivered by its working groups

- Education and Training
- Measurement Uncertainty and Traceability
- Method Validation
- Proficiency Testing
- Qualitative Analysis and Testing
- Reference Materials
- Sampling Uncertainty



Activities

- **Workshops and training**
 - International workshops on analytical QA issues
 - Hosted by members
- **Guidance documents**
 - Prepared by working groups
 - Disseminated via web
 - Translation and publication by members permitted



Workshops since 2010

- Method Validation (2016, 2019)
- Validation, Traceability and Measurement Uncertainty (2012)
- Measurement Uncertainty (2011, 2017, 2019)
- Data – Quality, Analysis, Integrity (2018)
- Accreditation Issues (2019, 2020)
- Proficiency Testing (2011, 2014, 2017)
- Internal Quality Control (2012)
- Metrology and QA (2010, 2014)
- QA of measurements from Field to Laboratory (2013)
- QA in the university curriculum (2020)
- Decision making (2010)

... as well as Quality Assurance (QA) and training events in conjunction with General Assembly meetings and in collaboration with other organisations



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Future Eurachem events

- **Eurachem week 2021**
 - Prague, Czech Republic
 - Workshop (17-18 May): Trends & challenges in ensuring quality in analytical measurements
 - General Assembly (19-21 May)
 - www.eurachem2021.cz
- **10th Eurachem Workshop on Proficiency testing in analytical chemistry, microbiology & laboratory medicine**
 - 27-30 September 2021, Windsor, UK
 - www.eurachem-pt2021.org



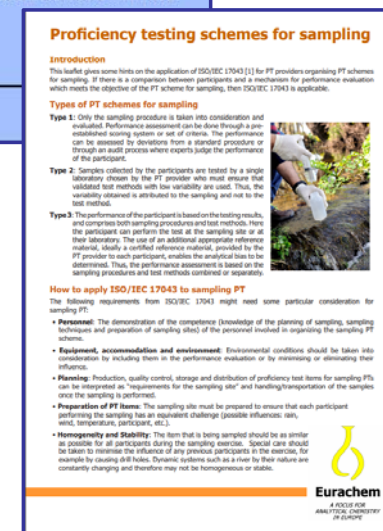
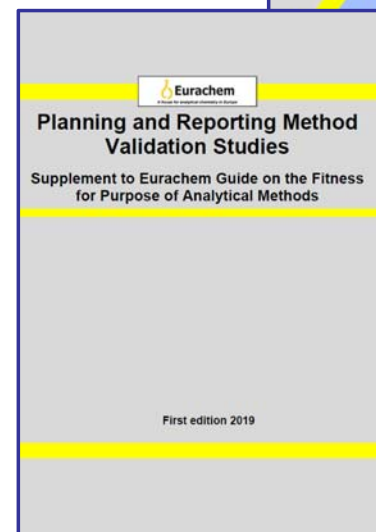
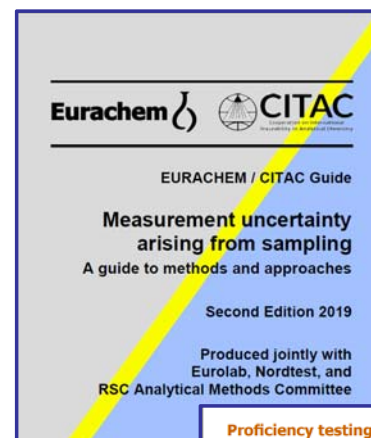


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Guidance documents *Available at eurachem.org*

- Eurachem guides
 - Recommendations on good practice
- Supplementary guidance
 - Recommendations on good practice illustrating/amplifying Guide topics
- Information leaflet
 - 2 page document, introducing a Eurachem Guide or providing information on a topic of interest
- Translations available



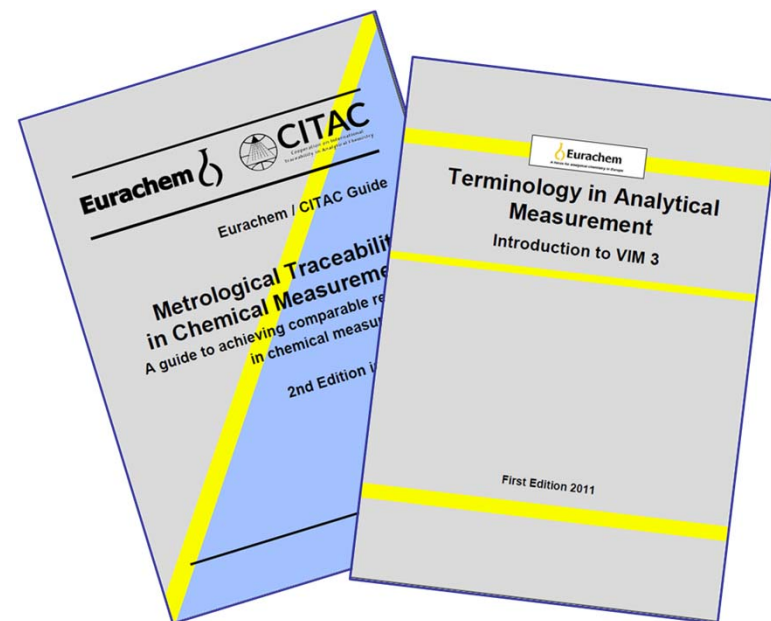


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Eurachem guides

- Traceability in Chemical Measurement
- Measurement Uncertainty Arising from Sampling
- Guide to Quality in Analytical Chemistry: An Aid to Accreditation
- Setting Target Measurement Uncertainty
- The Fitness for Purpose of Analytical Methods: A Laboratory Guide to Method Validation and Related Topics
- Accreditation for Microbiological Laboratories
- Quantifying Uncertainty in Analytical Measurement

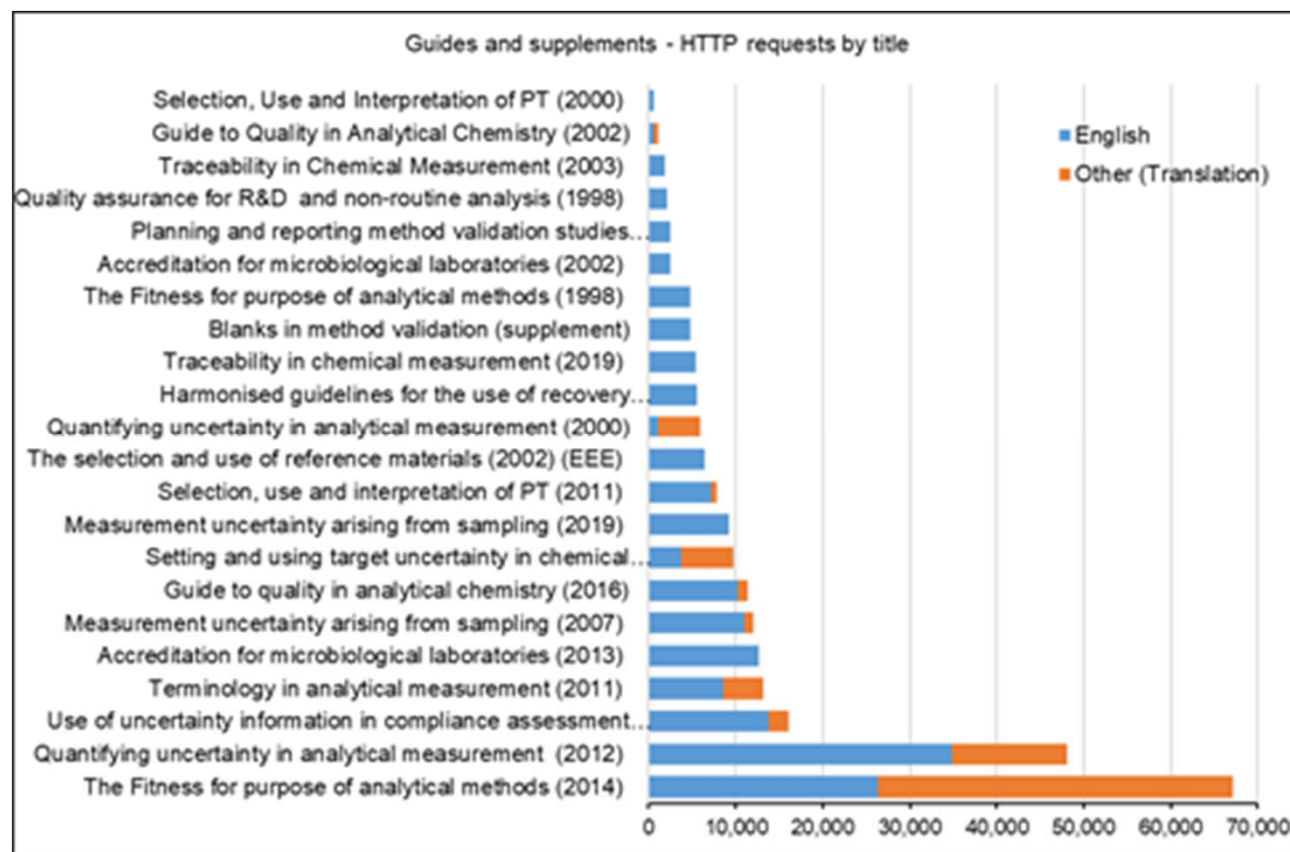




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Downloads of guides



**Downloads of Eurachem
guides
Apr 2019 - Mar 2020**



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Information leaflets

- **Proficiency testing (PT)**
 - How to investigate poor performance in proficiency testing
 - Use of surplus Proficiency Test items
 - Proficiency testing - How much, and how often
 - Selecting the right PT scheme for my laboratory
 - How can PT help my laboratory?
 - Pre- and post-analytical PT
 - PT Schemes and other interlaboratory comparisons
 - PT schemes for sampling



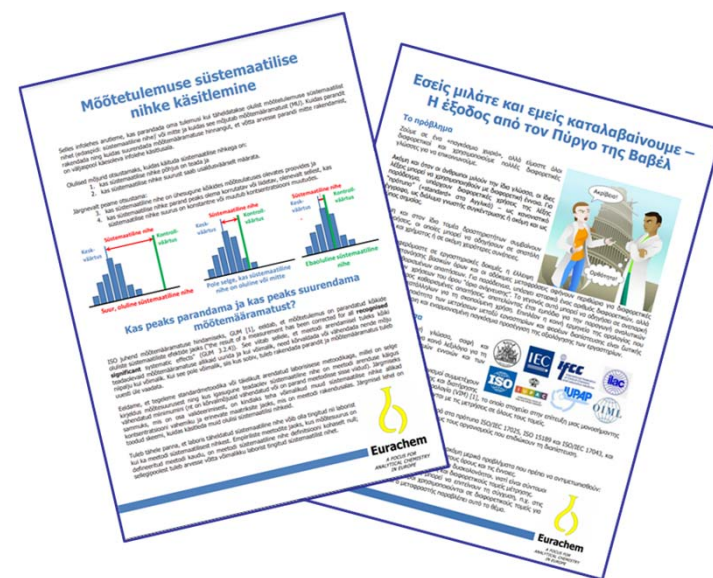


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Information leaflets

- **Measurement uncertainty and traceability**
 - Traceability of Analytical Results
 - Use of uncertainty information in compliance assessment
 - Using repeated measurements to improve the standard uncertainty
 - Treatment of an observed bias
 - Setting target measurement uncertainty
- **Accreditation**
 - ISO/IEC 17025:2017 - A New Accreditation Standard
- **Terminology**
 - You talk, we understand – The way out of the tower of Babel

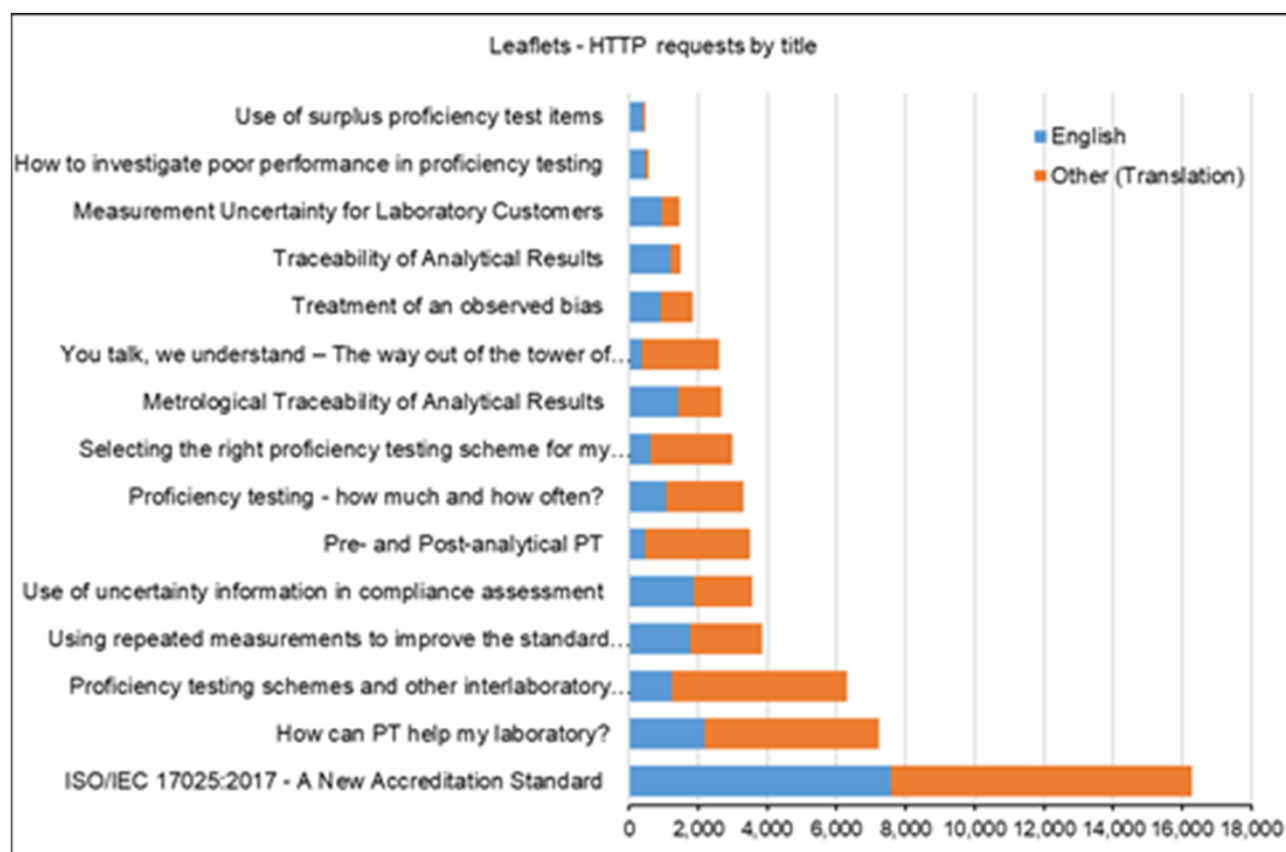




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Downloads of information leaflets



**Downloads of Eurachem
leaflets
Apr 2019 - Mar 2020**



Current guidance activities

- **Guides in preparation:**
 - Expressing uncertainty in qualitative analysis
 - Evaluation on measurement uncertainty from in-house precision and trueness tests
- **Guides under revision:**
 - The Selection and Use of Reference Materials
 - Quality Assurance for R&D and Non-routine Analysis
 - Terminology in Analytical Measurement
 - Selection, Use and Interpretation of Proficiency Testing (PT) Schemes by Laboratories
 - Accreditation for Microbiological Laboratories



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Impact of Eurachem activities

- Membership
 - 33 of 39 countries with population >0.1 million eligible for full membership
- Impact on accreditation
 - Liaisons – ILAC and EA
 - References to Eurachem publications in guidance documents
- Uptake of guidance
 - Downloads and translations

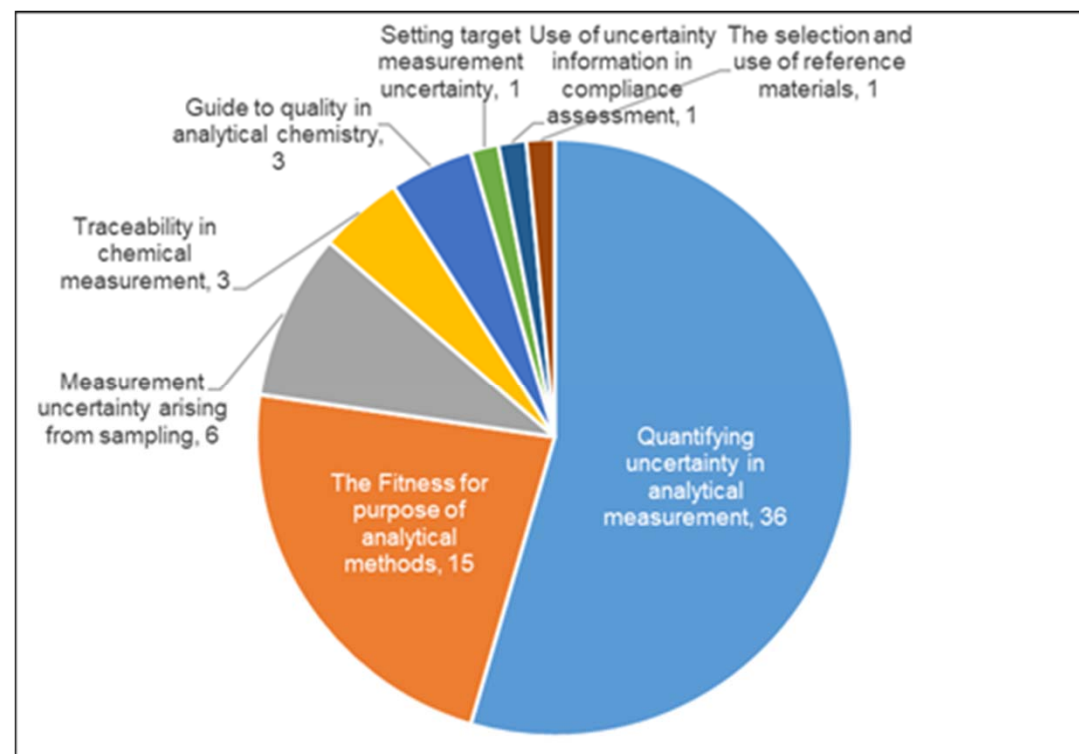


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Impact of Eurachem activities

- Impact on standardisation
 - References to Eurachem in ISO standards
 - 66 citations across 51 standards (Aug 2020)
- Literature citations
 - Ca. 2330 citations (Google Scholar, Aug 2020)





Future challenges

- Eurachem – a focus for **analytical chemistry** in Europe
- Audience is much wider
 - Interest in accreditation and quality assurance cuts across many sectors
- Traditional focus – ‘targeted analysis’
- Challenges for non-targeted methods
 - Discussed at 2019 workshop on validation of targeted and non-targeted methods
- Boundaries between disciplines is increasingly blurred
 - How to support scientists working outside ‘analytical chemistry’

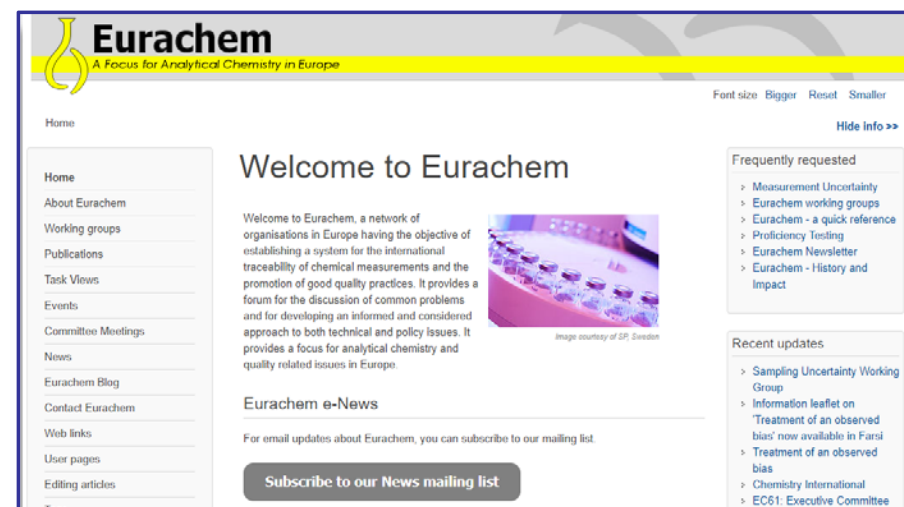


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Keep in touch...

- Website: www.eurachem.org
- Twitter: @EurachemEurope
- YouTube: Search for Eurachem
- Mailing list:
<https://www.eurachem.org/subscribe>





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Administration 2020-2022

- Change of Chairs (2-year cycle)
 - Chair: Vicki Barwick (UK)
 - Vice chair: Isabelle Vercruysse (Belgium)
 - Past chair: Marina Patriarca (Italy)
- Secretariat
 - LGC, UK
 - secretariat@eurachem.org
- Website: www.eurachem.org



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Summary

- Eurachem aims to provide a focus for analytical chemistry and quality related issues in Europe
- A 'network of networks' with 36 members
- Guidance addresses all stages of the measurement cycle
 - From sampling, through method validation to evaluating measurement uncertainty and interpreting results
- Impact demonstrated through downloads of guidance and citations in standards and scientific literature
- Looking to the future and how to support the broader analytical community

Eurachem is people

General Assembly, May 2020
Virtual meeting hosted by
Eurachem-Romania

