EURAMET TC-MC Metrology Innovation and Research for Healthcare

Drivers & Benefits

- · staying healthy in a rapidly changing society
- tackling diseases and reduce burden
- Unlocking the full potential of new tools for a healthy society
- rapid & sound response to infectious diseases and epidemics
- · diagnosis for targeted intervention to improve quality of life
- reducing the impact of non-communicable and chronic diseases
- Improved reliability of biomedical measurements for better diagnosis, therapy and epidemic predictions

Targets for improvement

- translational metrology for a better and faster implementation of new biomarkers/clinical tests
- multiparametric measurements (e.g. -omics) for earlier and more specific diagnosis
- Implementation of IVDR and metrological traceability to EQA schemes
- validation of artificial intelligence for diagnosis and prognosis

- accuracy of POCT and IVD devices
- non/less invasive sampling and testing
- detection capabilities for new and low-level biomarkers
- fast specific and accurate state-of-disease detection for accurate epidemic predictions
- speed and reliability of vaccine development
- · metrology for better clinical trials

Component technologies

SI traceable methods for multiparametric measurements

SI-traceable POC devices

Tools for European traceability

Chemistry and structure specific analysis tools

SI traceable procedures for biomarkers validation and implementation

Measurement requirements

Multi-parameter detection technologies and "-omics"

Low sample volume trace detection

Measurement validation tools (CRMs, primary calibrators etc)

better biomolecular interaction measurements

Better monitoring gene editing and therapy

Quant. measurem. on cells & cell properties

Generic underpinning chemical metrology activity

- new measurement approaches and technologies
- traceability approaches to measurement results where SI traceability is not yet achievable
- better comparable and traceable measurement results
- international comparisons
- better stake holder interaction/engagement

- tools to enable better description of the measurand
- approaches and better understanding of CRM commutability issues
- development of higher order reference methods and approaches
- better approaches to data management and mining

2020 2024 2028 2032