



Measurement science for digitalisation - managing a complex puzzle on a global scale

IMEKO TC6 Digitalization, TC Officers
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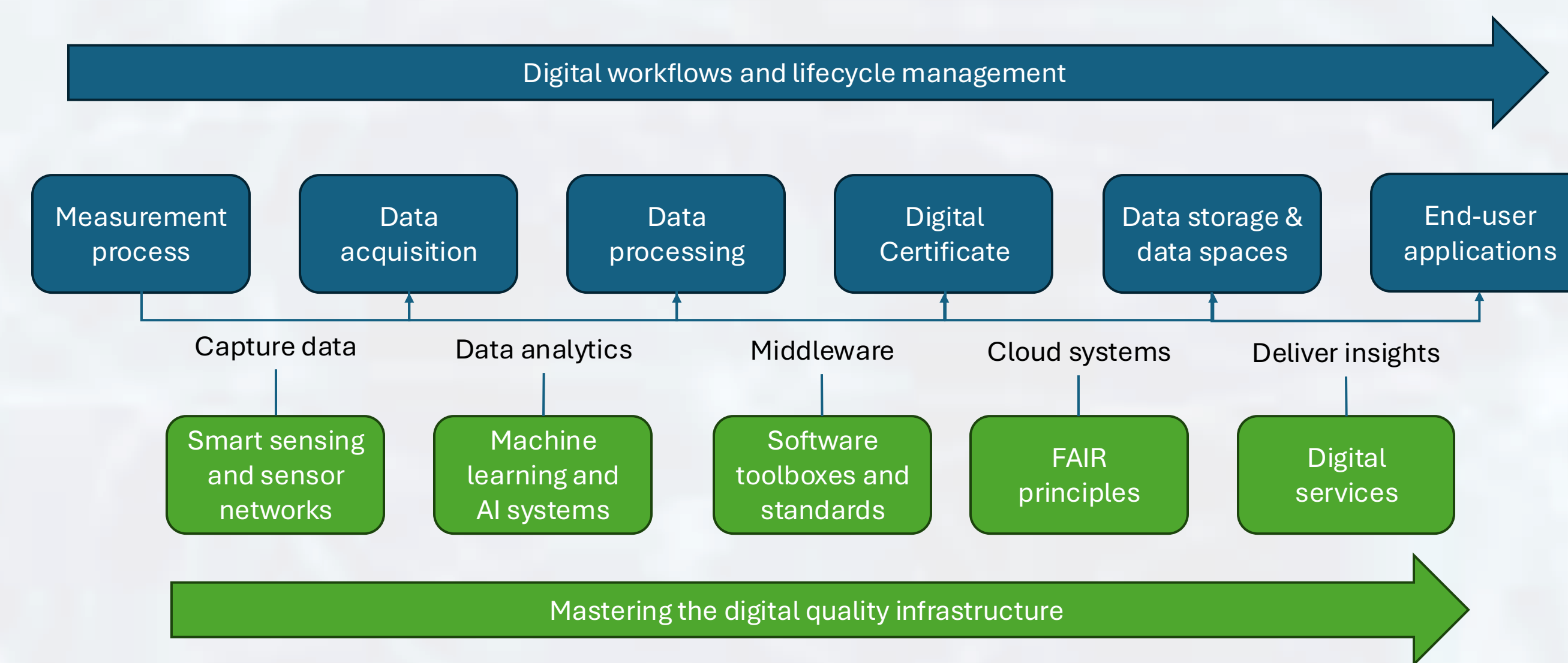
- Digitalisation is transforming metrology and the quality infrastructure substantially and sustainably
- Interconnected systems and automation are reshaping processes, workflows and end-user expectations
- Collaboration between global metrology and QI organizations is crucial for successful digital transformation
- Future developments will focus on AI, cloud computing, and FAIR data principles



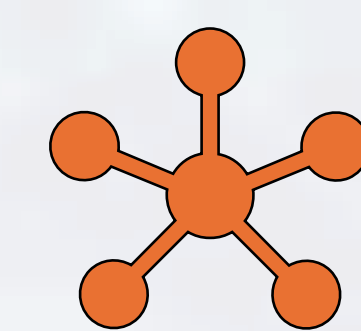
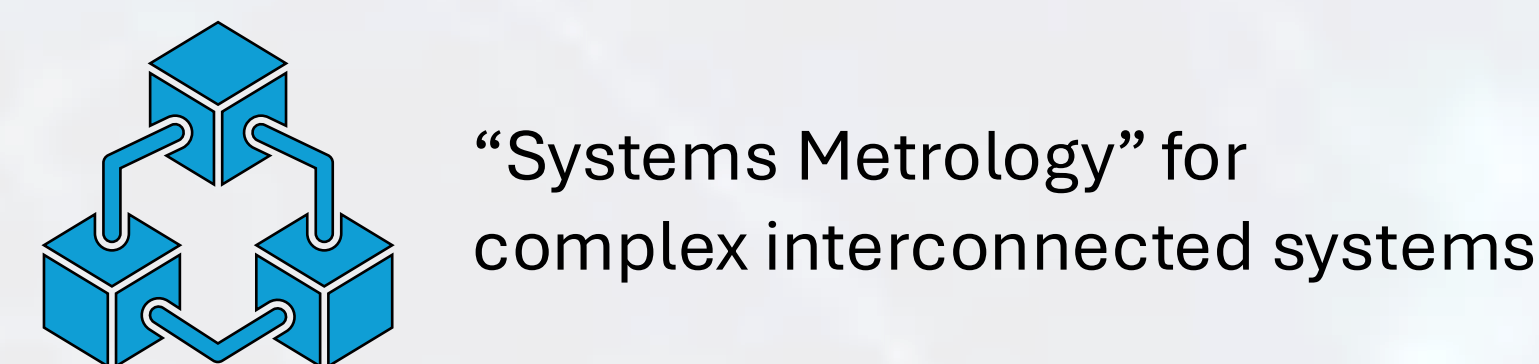
XXIV IMEKO World Congress 2024 highlighted major advancements in digital metrology



- 8 Sessions on various topics of digitalisation and metrology
- 3 Workshops with over 200 attendees covering topics like international collaboration, digital QI, traceability and digital calibration certificates
- 76 submitted papers from which 43 were selected for oral presentation at the conference and 33 for poster



Digital infrastructures

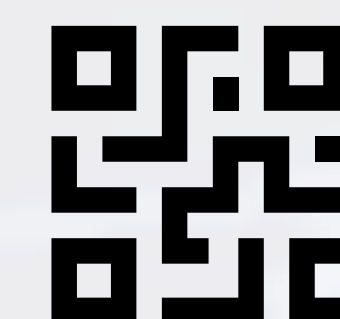


Sensor networks as systems of systems from local setups to global networks of sensors



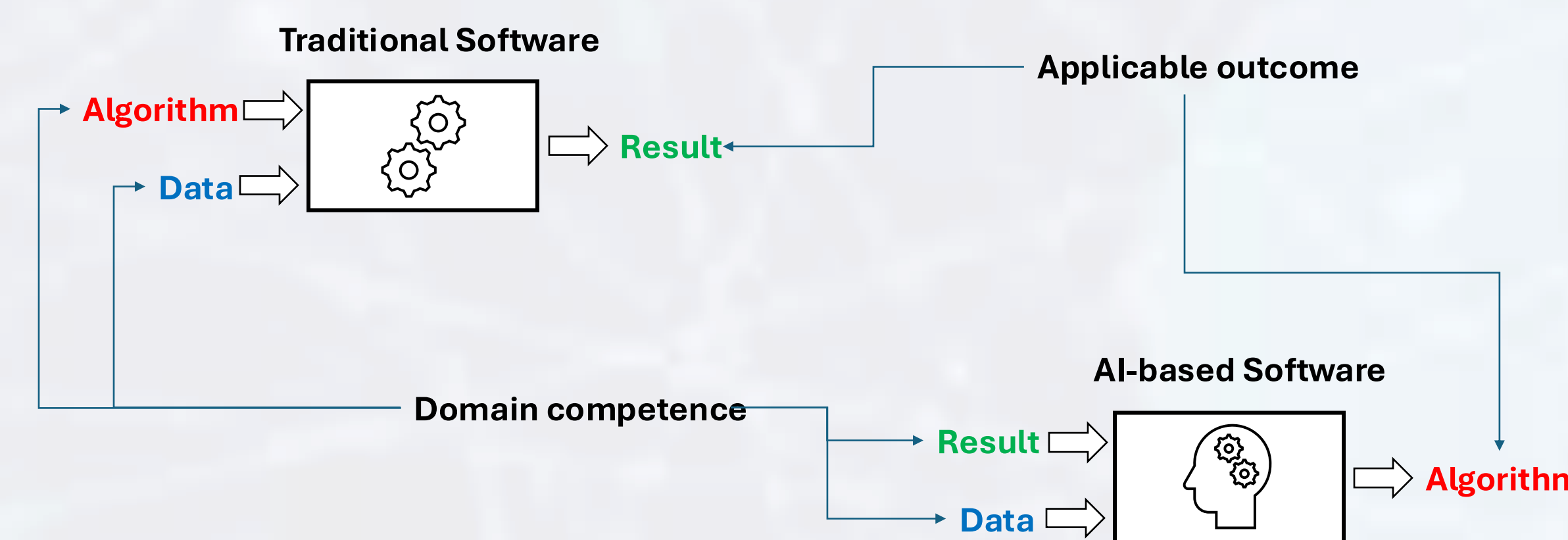
Cloud infrastructures and data spaces for access to data and computing resources

Data exchange and cloud-based services for a digital quality infrastructure



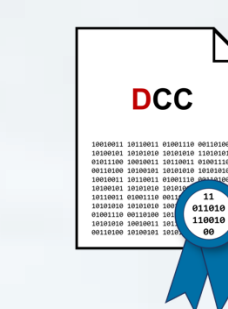
Unique identifiers and digital access to information, reports, certificates and data

Metrological competence for AI



Interactive workshops

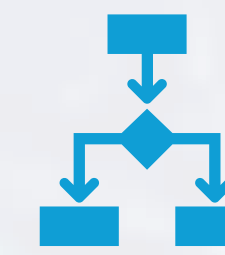
Capacity building using regional expertise and knowledge (CABUREK)



Implementing digital calibration certificates



Designing digital workflows



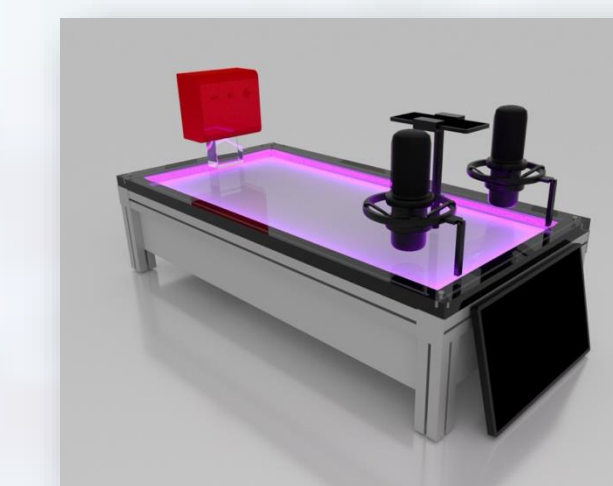
Developing a digital strategy

Regional developments



Sharing, learning and discussing

Hands-on experiences

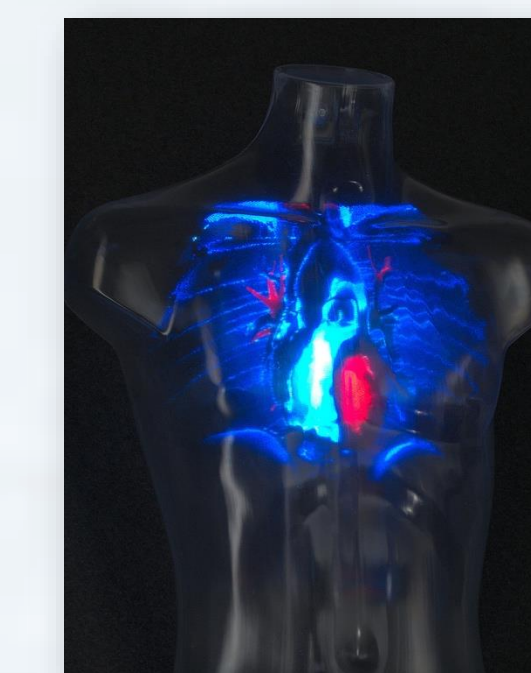


PTB, Co-calibration demonstrator

Introduction to digital verifiable credentials for the quality infrastructure of the future



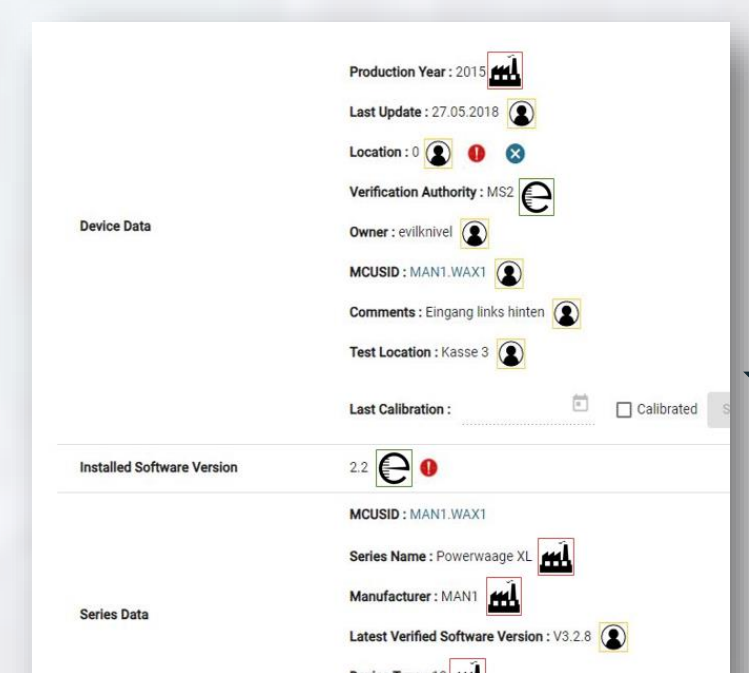
RandomRed, EBSI demonstrator



PTB, AI testing demonstrator

Prototype AI testing platform showcasing application in health

Prototype cloud-based infrastructure for digital product passport and digital QI processes



PTB, Metrology Cloud demonstrator

Future Outlook & Call to Action

- Digital transformation in metrology is a topic of growing complexity in international metrology
- Scientific exchange for identifying common challenges and share experiences
- Harmonisation of technological developments necessary to reach application readiness

Identifying common challenges

Developing joint solutions