



**SIM
SCHOOL**

Metrology for Digital Transformation Quality Infrastructure

SPEAKER

EDUIN CULMA

SIM MWG14 M4DT, Instituto Nacional de Metrología (INM)

Bogotá, Colombia | August 2024



Metrology for Digital Transformation (M4DT)



Context

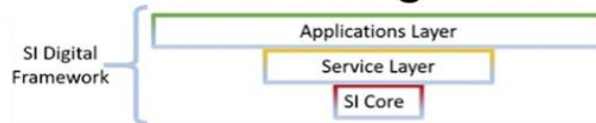
M4DT



Enable technologies

- Laboratories automation
- Digital Calibration Certificate (DCC)
- Machine learning
- Artificial Intelligent
- Metrology cloud
- Digital twins
- Among others

Grand vision of the SI Digital Framework



SIM-MWG-14

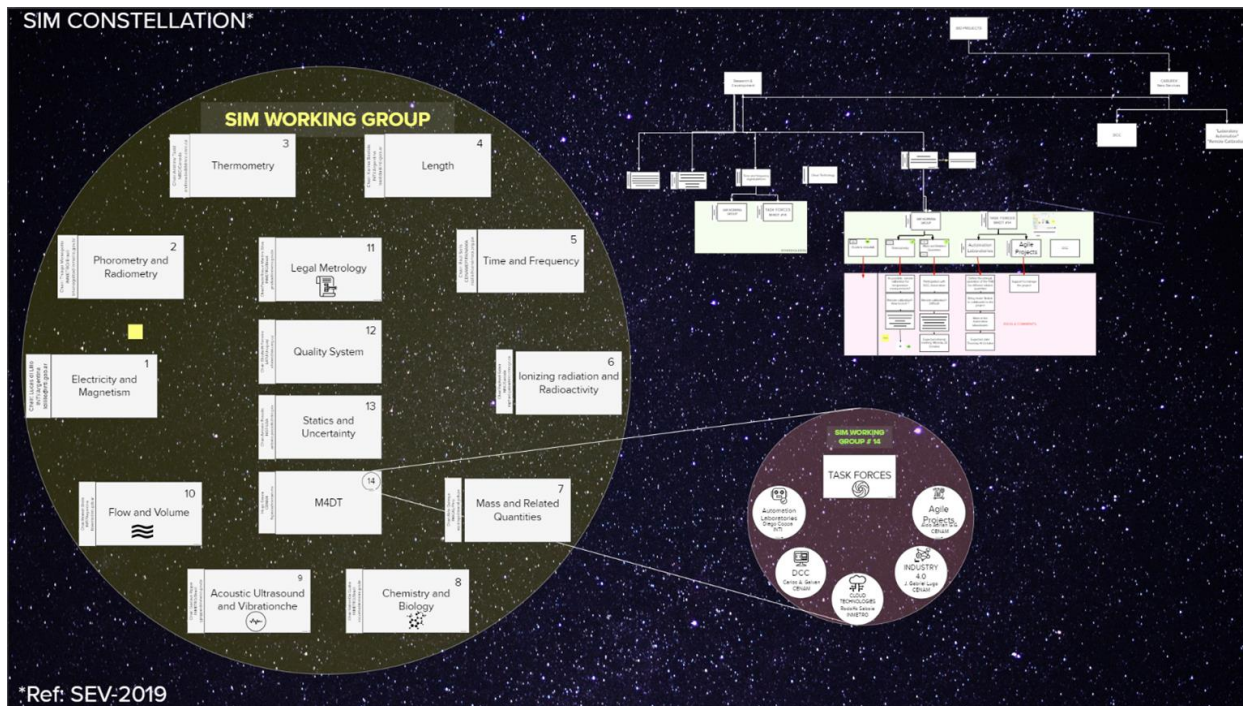
Bureau International des Poids et Mesures

The International System of Units (SI) in **FAIR** digital data.

Findable Accessible Interoperable Reusable

Context

M4DT



- Argentina
- Barbados
- Belize
- Bolivia
- Brazil
- Canada
- Chile
- Colombia
- Costa Rica
- Ecuador
- El Salvador
- Guatemala
- Haiti
- Mexico
- Panama
- Paraguay
- Peru
- St Kitts & Neves
- Trinidad & Tobago
- Uruguay
- USA
- Venezuela

Query link:

<https://app.mural.co/t/m4dtcenamdcc9341/m/m4dtcenamdcc9341/1625151977760/af5c0b13b482be79a185ef73b7972e1222d5829f?sender=10867eeb-9b45-46b2-a97b-1059e9098f9f>



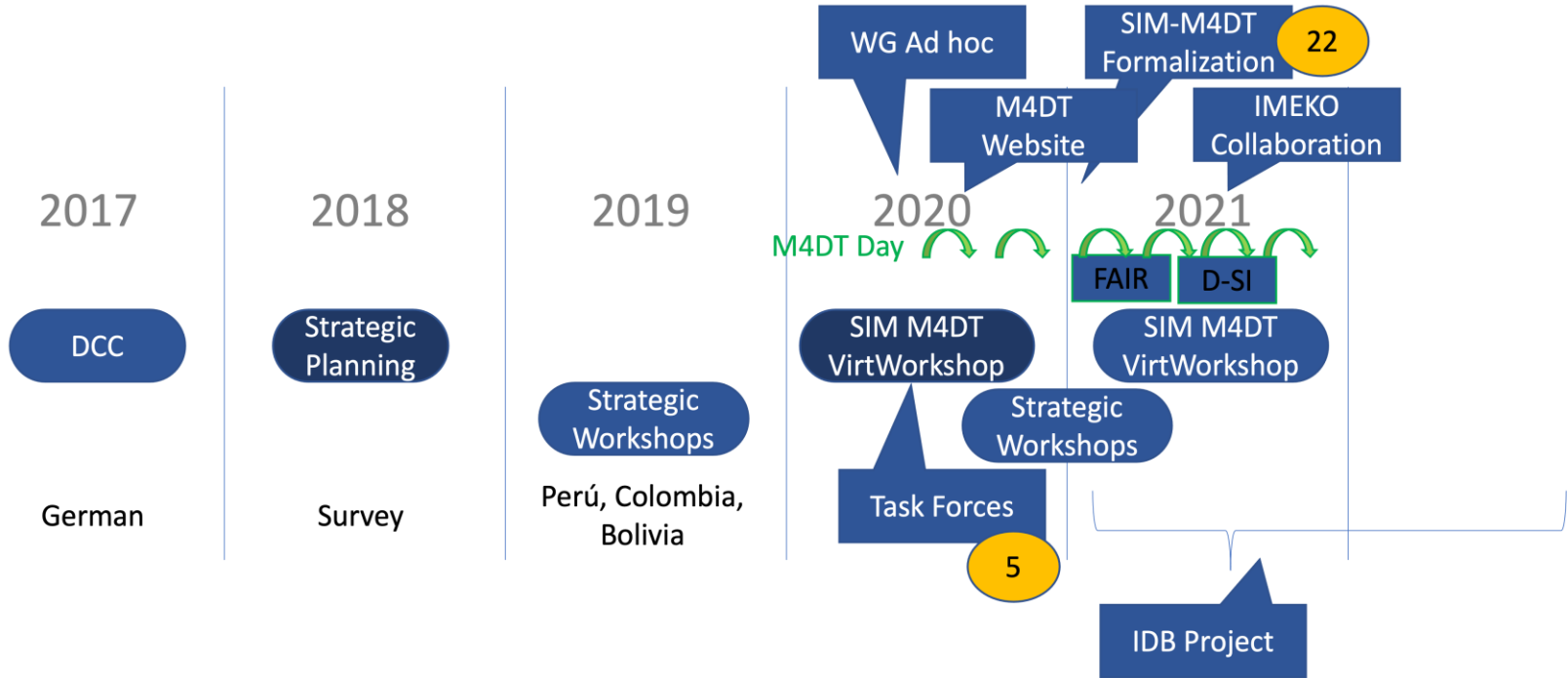
History SIM MWG-14 M4DT





History

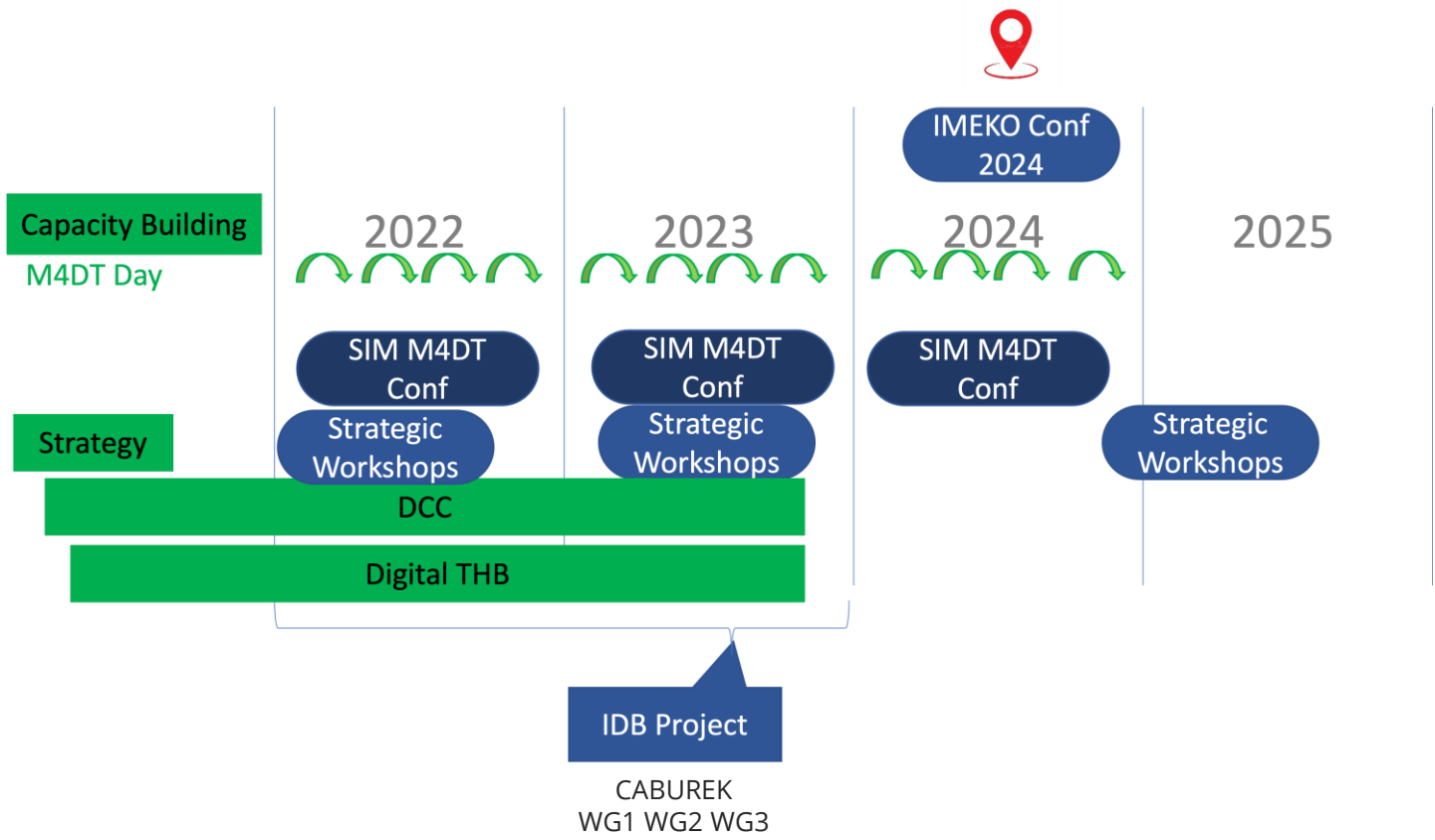
Background





History

Background



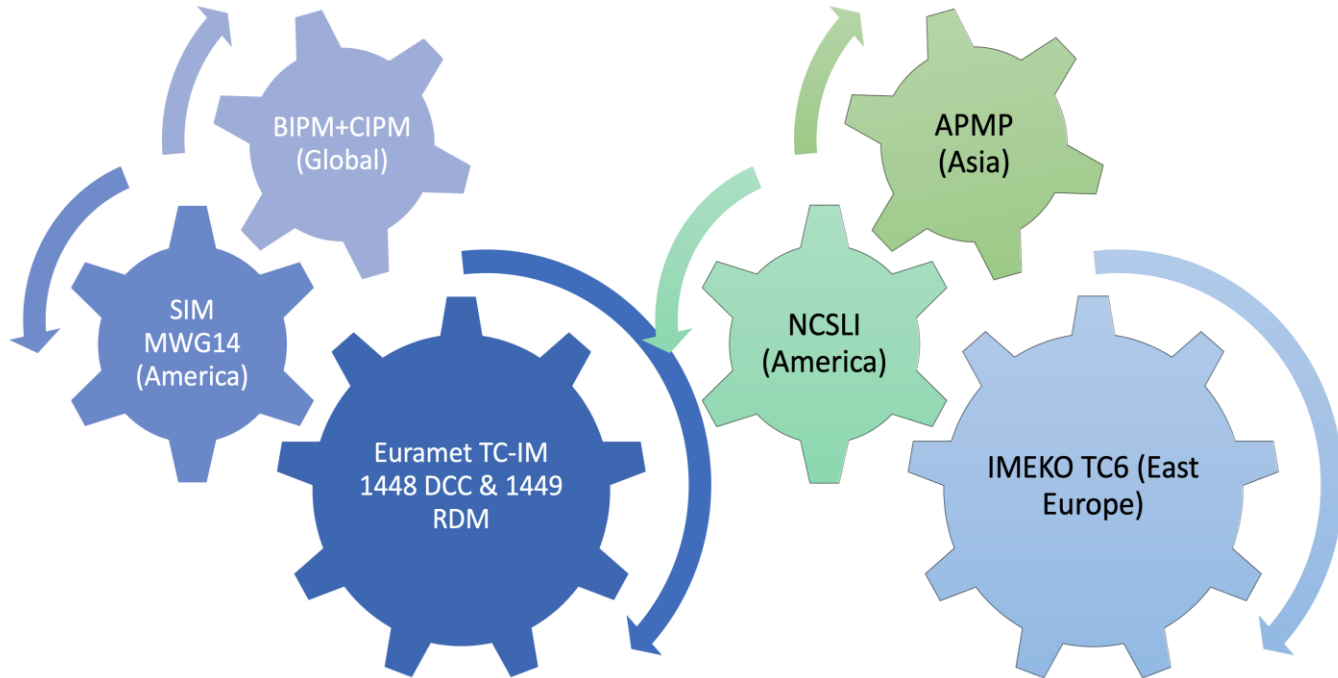


M4DT Development



M4DT Development

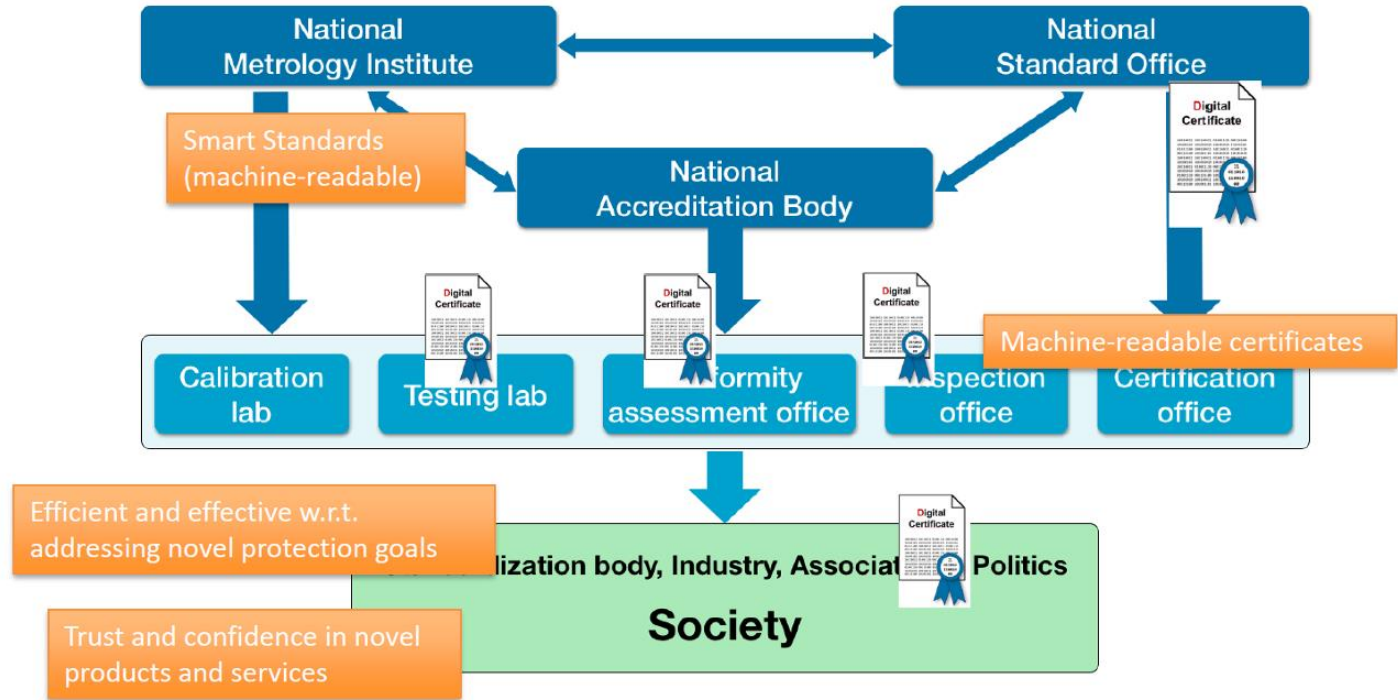
Global effort





M4DT Development

DCC vision



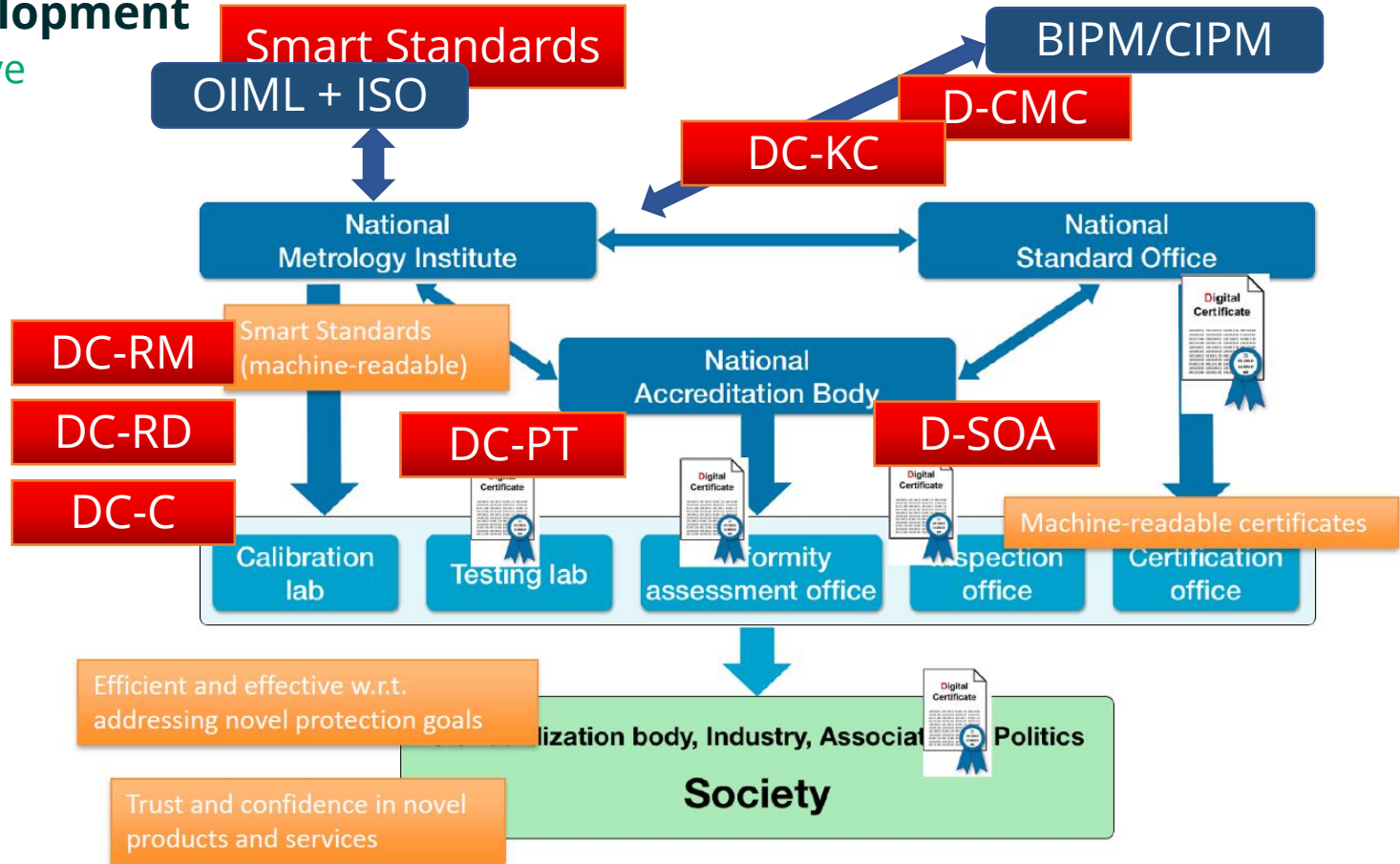
Source: Adaptation of Guasch et al., Quality Systems and Standards for a Competitive Edge, The World Bank, 2007 by Frank Hartig, PTB, 2017.



M4DT Development

SIM Integrative

DCC vision





Advances in the SIM Region






Advance in the SIM Region

SIM MWG-14 Perspective

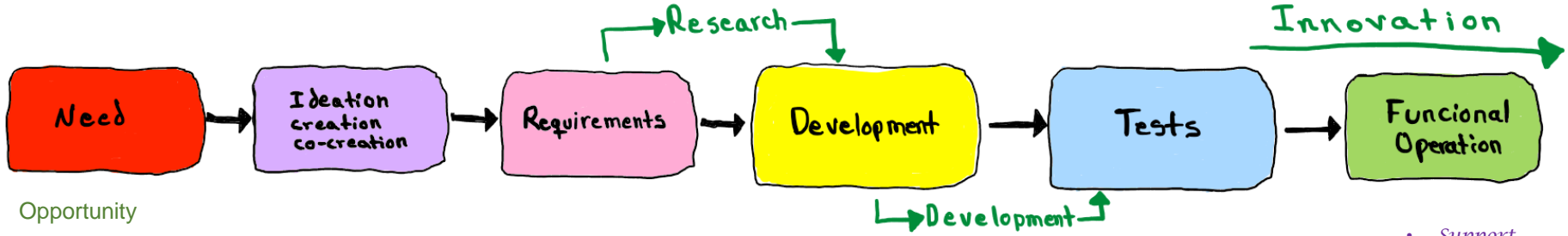
Activities

- Mass Calibration Automation
- Continuous Monitoring Smart-Meters
- Integrated Customer-Centric Platform
- Computer vision (OCR +)
- Digital twins
- Chairman renewal

Interactions

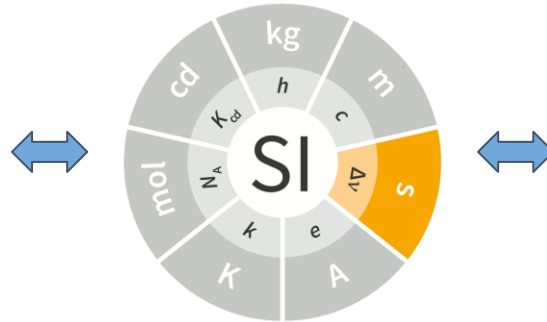
- Adopt BIPM reference D-SI
 - Collaboration IAAC
 - Digital Quality Infrastructure actors
 - Digital Metrological Traceability
 - BIPM forum Metrology and Digitalization
 - Metrology for AI
- 

M4DT



- Support
 - Maintenance
 - Upgrades
- Versioning

Thanks!






Thanks.

Eduin Culma

Instituto Nacional de Metrología (INM)

jeculma@inm.gov.co



SIM SCHOOL

Follow us on:



facebook.com/metrosim



youtube.com/simmetrology7958



www.sim-metrología.org



Source

SIM MWG-14



<https://www.youtube.com/@m4dt-simvirtualworkshop61/featured>

