DKD Cross-Section Subcommitee on DCC

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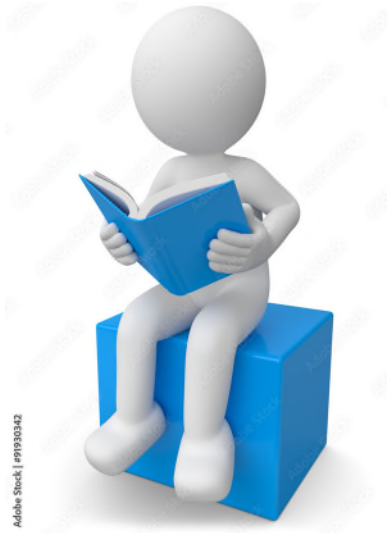
DCC Theme Day 2025

Introduction



DKD-DCC Setup

Numbers, Data, Facts

- Number of Members: 84 (+27)
  - Laboratories: 56 (+25)
  - PTB: 20 (+2)
  - International: 5 (±0)
  - Non DKD members: 3 (±0)

Now (change since 2024)

Composition of members

- All technical committees represented
- From each technical committee:
  - Chair of technical committee
  - Chair of the DCC subcommittee
  - Additional representatives
- Activity areas of the members:
  - Laboratory
  - Software Devlopment
  - Equipment manufacturer
  - NMI

Collaboration

Aims

- Developments of **DCC**s for selected measurands and measuring equipment types
- Good practices/ Templates
- Expert reports
- Harmonized wording
- Interoperability
- Bringing members from industry together

Modus operandi

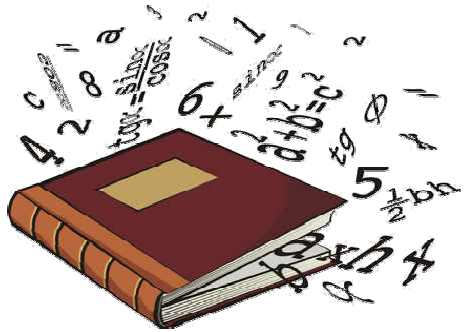
- Regular online meetings
- GitLab-Issues
- Establishing working groups to address specific issues

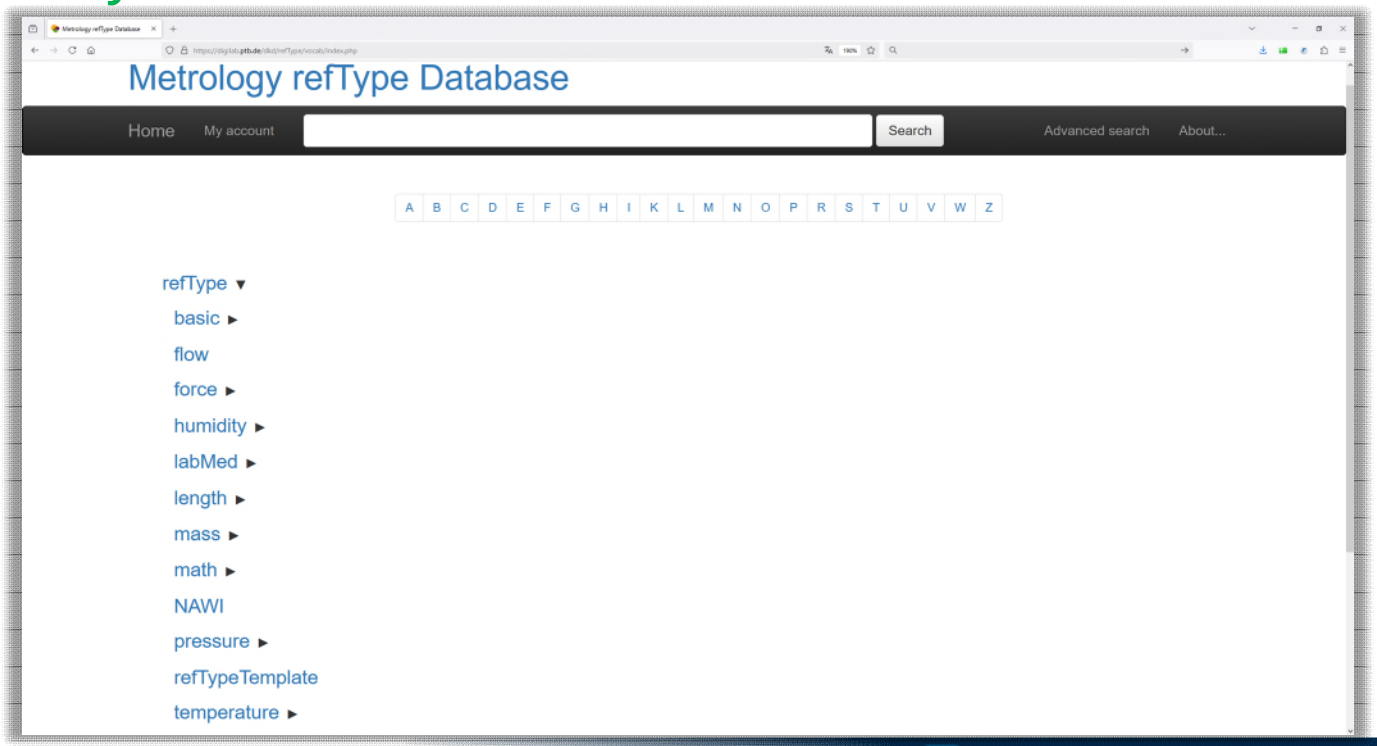
News from the Cross-Section Subcommittee **DCC**

Harmonized wording

Increasing the machine-interpretability of DCCs

- Maschine-interpretable thesaurus for refTypes
  https://digilab.ptb.de/dkd/refType/vocab/
- Increasing steadily over time

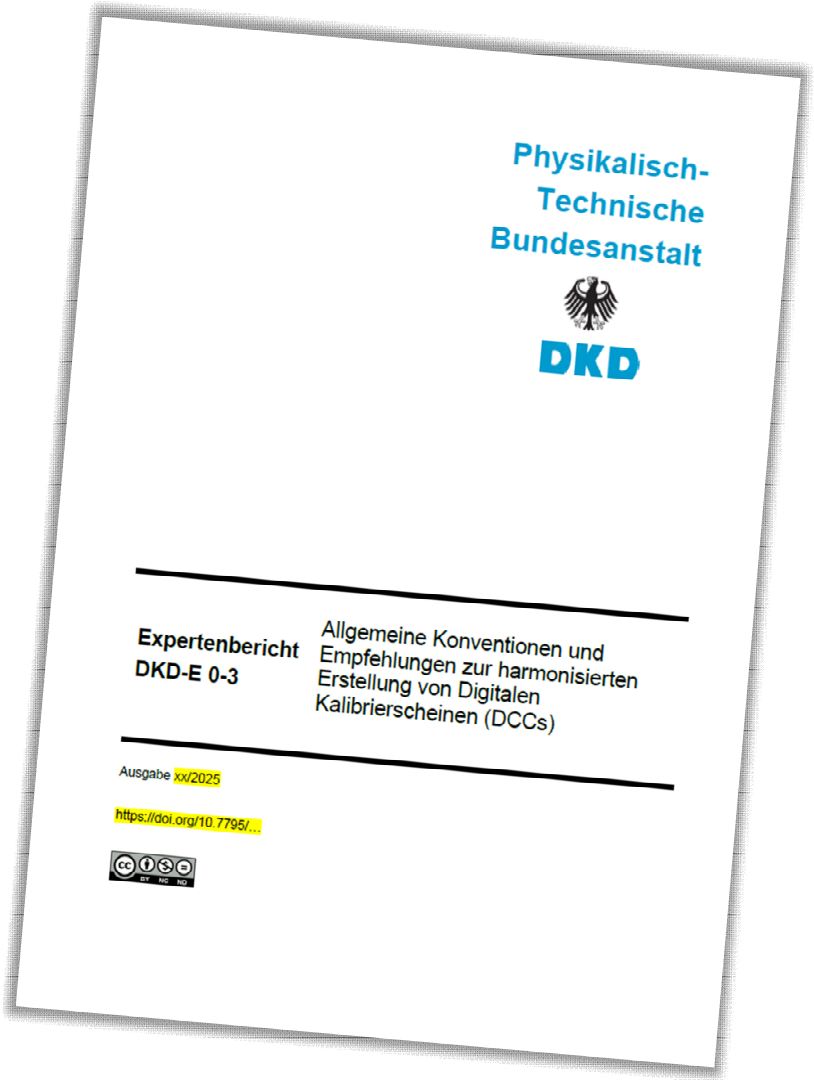




Expert report Cross-Section Subcommitee

Status of the expert report

- Titel:
  - DKD-E 0-3 General conventions and recommendations for the harmonized creation of Digital Calibration Certificates (DCCs)
- Current key tasks:
  - Finalizing individual sections
  - Making editorial reviews
- Planned publication: January 2026



DCC news from the technical committees

DKD Outputs – DCC

Deutscher Kalibrierdienst

TC	Example DCC	Expert report
Mass	**Mass**	**Available** https://www.ptb.de/cms/fileadmin/internet/dienstleistungen/dkd/archiv/Publikationen/Expertenberichte/DKD-E_7-2_rev1_en.pdf
Length **(new)**	**Gauge Block**	**Available** https://www.ptb.de/cms/fileadmin/internet/dienstleistungen/dkd/archiv/Publikationen/Expertenberichte/DKD-E_4-3_2024-12_en.pdf
Scales/weighing instruments **(new)**	**Scales**	Available https://www.ptb.de/cms/fileadmin/internet/dienstleistungen/dkd/archiv/Publikationen/Expertenberichte/DKD-E_7-3_2025-03_en.pdf
Metrology for Laboratory Medicine	**Amount of substance concentration/fraction**	**In progress**
Flow Quantities	**Fluid flow**	In progress
Temperature and Humidity	Resistance thermometer	In progress
Force, Acceleration and Acoustics	Force transducer Acceleration-sinusodial and acceleration-shock	In progress
Material Testing Machines	Tensile testing machine	-
Pressure & Vacuum	Digital pressure measuring device, acc. DKD-R 6-1 (de, en, es) Vacuum measuring device, acc. DKD-R 6-2 (only in de)	-
Torque	Calibration of static torque measuring devices, acc. to DIN 51309	-
Metrology in Chemical and Material Properties	Pipettes	-
DC & LF	Multifunction calibrator	-
Measurement Uncertainty	**Various code snippets**	In progress

Status of work:
Ready & available
Ready, to be released soon
First results
In progress

Interoperability Challenge DCC Mass

- **Initial question:** Can anyone use the good practice **DCC** and the expert report for Mass in order to create a **DCC** that anyone can read correctly?

- **Expected Output:**
  - Verification that the example **DCC** and expert report are comprehensible to a broad audience
  - Confirmation that the software implementation is fit for purpose

- For more information: gisa.foyer@ptb.de & julian.haller@sartorius.com

DCC on the road

Events hosted by DKD members

- **Information events:**
  - Webinar – Digitalization of calibration services
    https://www.testotis.de/know-how/webinare/details/digitalisierung-kalibrierwesen

Durchgeführt am 27.03.2025

- **Metrologydays 2024:**
  - No more persuasion needed
  - More input desired how the **DCC** can be used in practice

DCC on the road

DCC projects with participation of DKD members

- **Bilateral project:** Testo – Porsche Calibration Technology. Topic: **DCC** for turbine calibration

- **Transfer project: DCC** use case – complete digital traceability chain from the national metrology institute through the calibration laboratory to industry

- **Project with OEM participation:**
  DCC Production Mode
  - Manufacturer: Boehringer Ingelheim
  - DKD members: Beamex, Endress & Hauser, Testo, Siemens
  - Goal: Introduction of **DCC**, development and implementation of **DCR**
  - **Output:** from 1st January 2027 onwards Boehringer will only accept **DCC**s. Laboratories that do not supply **DCC**s will bo longer receive orders

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Geschäftsstelle

DCC CONFERENCE

FROM GOOD PRACTICE TO STANDARDIZATION: 2026

DCC

FOR A RELIABLE FUTURE

24 - 26 FEBRUARY 2026