

Für Mensch & Umwelt

Umwelt 
Bundesamt

FAIRMODE Technical Meeting, Lillestrøm, 28 – 29 April 2014

Experiences with standardization in Germany

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Section II 4.2/ Air Quality Assessment

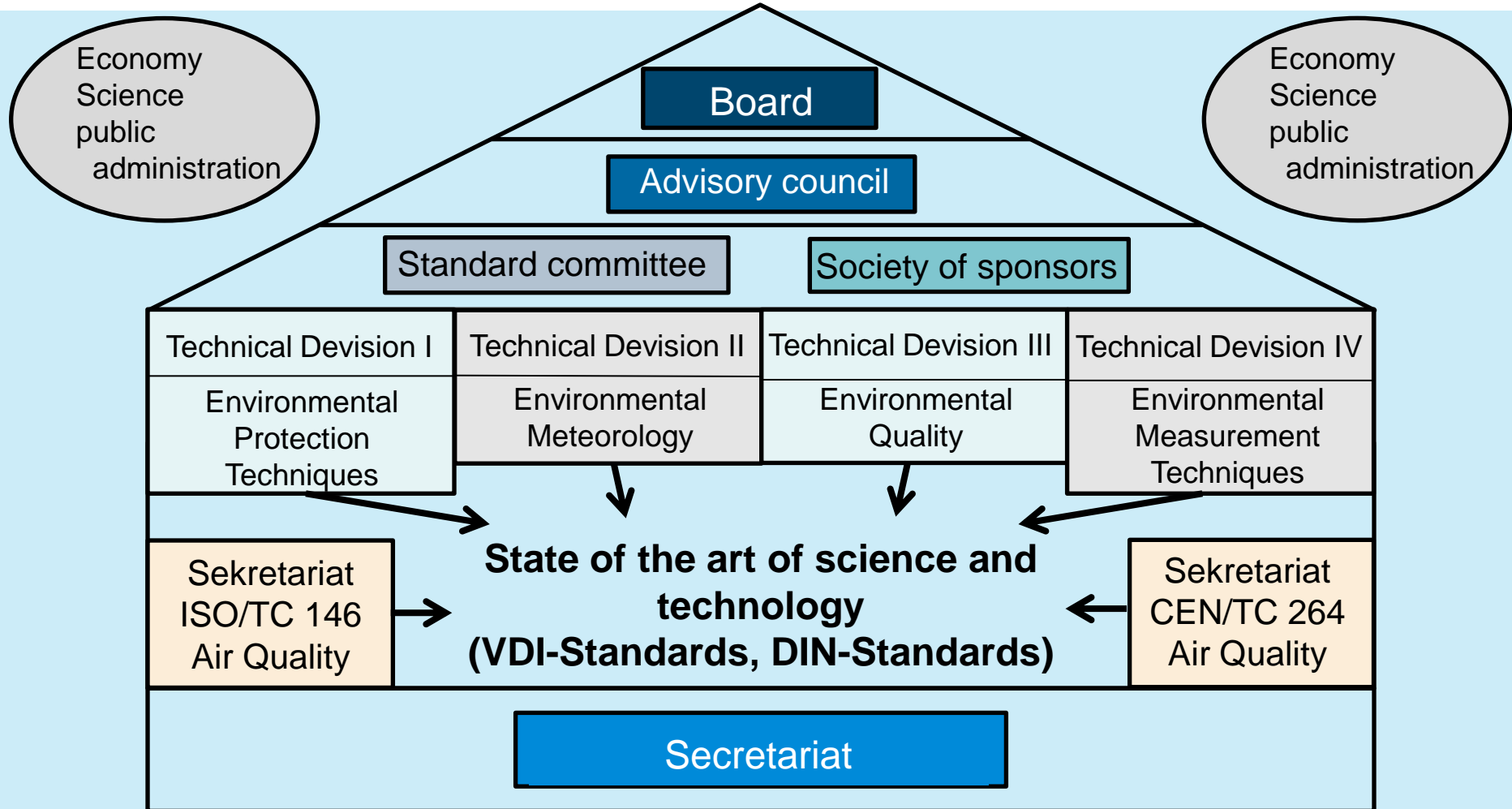
Topics

- 1 SOME GENERAL REMARKS ON STANDARDISATION IN GERMANY**
- 2 REQUIREMENTS WHEN DEVELOPING A TECHNICAL RULE**
- 3 EXAMPLE/ EXPERIENCE – TA LUFT MODEL**

Commission on Air Pollution Prevention of VDI and DIN (KRdL)

- **GOVERNMENT-RELIEVING ORDER IN THE FIELD OF AIR POLLUTION CONTROL**
 - by setting standards and publishing technical rules which supplement laws, ordinances and administrative regulations
- **BASED ON FUNDAMENTALS OF INTERDISCIPLINARY COLLABORATION AND VOLUNTARY SELF-RESPONSIBILITY**
 - „As much government as necessary, as few government as possible“
- **ESTABLISHED IN 1957**
- **INITIATED BY THE FEDERAL MINISTRY FOR ENVIRONMENT**
- **FUNDING OF INFRASTRUCTURE AND SECRETARIAT BY THE FEDERAL MINISTRY OF ENVIRONMENT**
 - ~ 1.3 million € /y
- **REPRESENTATTIVES FROM INDUSTRIES, SCIENCE, PUBLIC ADMINISTRATION, ...**
 - Contributions and travelling on own expenses (which might be a multiple of the funding)

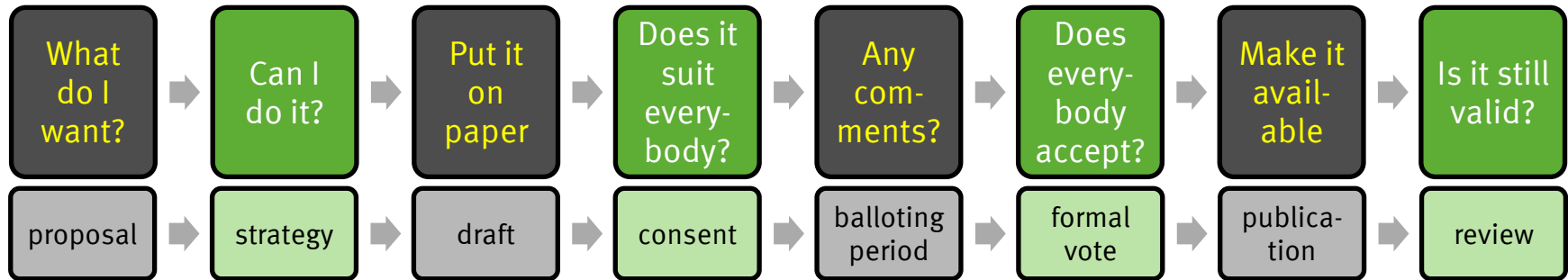
KRdL's organisational structure



Organisation's data

- About 160 National, European and International Committees
- About 200 meetings per year
- 1.250 honorary experts from economy, science and public administration
- 18 full-time employees at head office in Düsseldorf
- Institutional sponsorship by federal government

Development of a Guideline/Standard according to VDI 1000 resp. DIN 820



- **THE GUIDELINE SHALL PRIMARILY SERVE FOR THE PURPOSE TO IMPLEMENT LEGAL REGULATIONS ON THE TECHNICAL LEVEL**
- **THE GUIDELINE HAS TO**
 - ... be complete
 - ... be transparent
 - ... reflect the state of the art of science and technology
 - ... have stand alone character –
i.e. application should be possible without further information/ material
 - ☛ e.g. computer code has to be made available (if applicable)
- **THE RESULT IS A SO CALLED ANTICIPATED EXPERT OPINION THAT MAY BE USED GENERALLY WITHIN THE SCOPE OF APPLICATION**

Example – The German regulatory model

- **REVISION OF TECHNICAL INSTRUCTIONS ON AIR QUALITY CONTROL TALUFT 1986 ON ACCOUNT OF DIRECTIVE 96/61/EC CONCERNING INTEGRATED POLLUTION PREVENTION AND CONTROL (IPPC) AND AIR QUALITY DIRECTIVES**
- **REVISION OF MODELLING APPROACH ACCORDING TO THE STATE OF KNOWLEDGE AND PRACTICABILITY**
- **NEXT GENERATION DISPERSION MODEL**
- **MOST FLEXIBLE APPROACH WITH RESPECT TO:**
 - Meteorology, Terrain, Obstacles, Use of meteorological time series
- **PROVED IN PRACTICE**
- **USE OF VDI-GUIDELINES (AS FAR AS POSSIBLE)**

VDI-Guidelines for TA Luft dispersion model

Name	Title	Issue
VDI 3945 part 3	Particle model	2000-09
VDI 3783 part 8	Turbulence parameters for dispersion models supported by measurement data	2002-12
VDI 3782 part 1	Gaussian plume model for air quality management	2001-12
VDI 3782 part 3	Determination of plume rise	1985-06
VDI 3784 part 2	Dispersion modelling for the discharge of flue gas via cooling towers	1990-03
<i>VDI 3783 part 13</i>	<i>Quality control concerning air quality forecast – Plant-related pollution control - Dispersion calculation according to TA Luft</i>	<i>2010-01</i>
<i>VDI 3783 part 16</i>	<i>Prognostic mesoscale windfield models - Methods for licensing procedures according TA Luft</i>	<i>2013-12 draft</i>

II 6.1- Graff

The Dispersion Model LAUSTAL2000

Fazit

- Standardisation is challenging and sometimes boring but at the end ...
- there is a broad consensus about methods and procedures that may be applied without further discussion
- Thus, it was „easy“ to put forward the concept which is based on a modern modelling approach and which is flexible especially with respect to more advanced meteorological preprocessors

The image displays four overlapping copies of German VDI standards related to air quality and meteorology. The visible titles and contents are as follows:

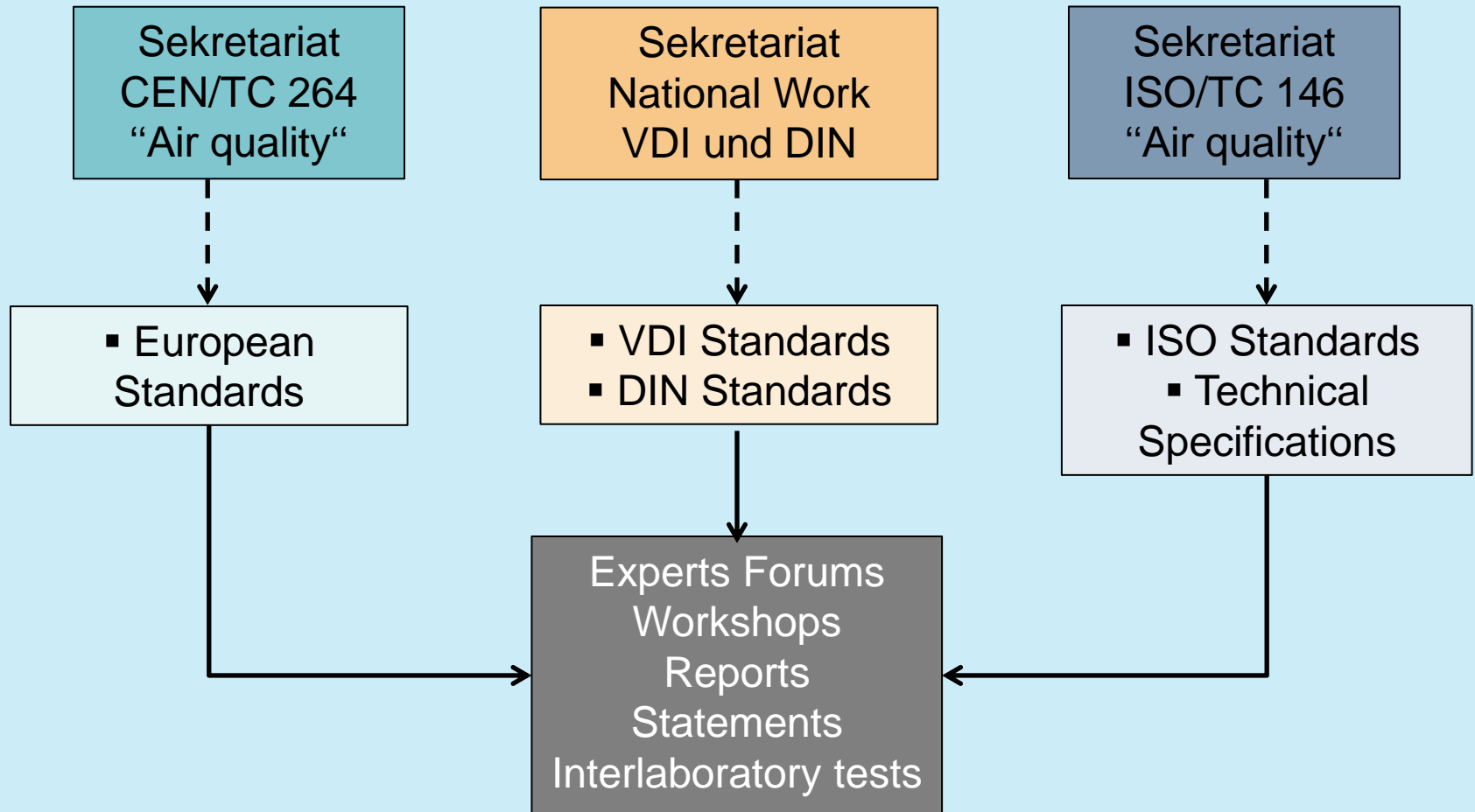
- VDI 3045 (December 2002):** VDI-RICHTLINIEN, Umweltmeteorologie, Atmosphärische Ausbreitungsmodelle, Partikelmodell, Blatt 3/Part 3. Content includes: Inhalt, Vorwort, Zielsetzung und Anwendungsbereich, Begriffe und Definitionen, 1 Einleitung, 2 Modellbeschreibung, 3 Eingangsdaten, 4 Ergebnisse, 5 Zusammenfassung, 6 Konformität mit Richtlinien, Anhang A bis D, Bibliographie.
- VDI 3783 (December 2002):** VDI-RICHTLINIEN, Umweltmeteorologie, Messwertgestützte Turbulenzparameterisierung für Ausbreitungsmodelle, Blatt 6/Part 6. Content includes: Inhalt, Vorwort, Zielsetzung und Anwendungsbereich, Begriffe und Definitionen, 1 Einleitung, 2 Grenzschichtparameter, 3 Grundlagen zur messwertgestützten Ableitung von Grenzschichtparametern, 4 Turbulenzparameterisierung für Ausbreitungsmodelle, 5 Ergebnisse, 6 Zusammenfassung, Anhang A bis D, Bibliographie.
- VDI 3783 (January 2010):** VDI-RICHTLINIEN, Umweltmeteorologie, Qualitätsicherung in der Immissionsprognose, Anlagenspezifischer Immissionschutz, Ausbreitungsrechnung gemäß TA Luft, Blatt 13 / Part 13. Content includes: Inhalt, Vorwort, Zielsetzung und Anwendungsbereich, Begriffe und Definitionen, 1 Einleitung, 2 Anwendungsbereich, 3 Begriffe, 4 Formelnzeichen und Abkürzungen, 4 Anforderungen an eine Immissionsprognose, 4.1 Aufgabengebiete, 4.2 Örtliche Verhältnisse, 4.3 Anlageneinblendung, 4.4 Schornsteinschleppschätzung, 4.5 Quellen und Emissionen, 4.6 Deposition, 4.7 Meteorologische Daten, 4.8 Kreuzungsbereich, 4.9 Komplexes Gelände, 4.10 Statistische Sicherheit, 4.11 Darstellung der Ergebnisse, Anhang A bis D, Bibliographie.
- VDI 3783 (December 2013):** VDI-RICHTLINIEN, Umweltmeteorologie, Prognostische mesoskalige Windfeldmodelle, Verfahren zur Anwendung in Genehmigungsverfahren gemäß TA Luft, Blatt 16 Entwurf. Content includes: Inhalt, Vorwort, Zielsetzung und Anwendungsbereich, Begriffe und Definitionen, 1 Anwendungsbereich, 2 Normative Verweise, 3 Begriffe, 4 Formelnzeichen, Abkürzungen und Indizes, 4 Anforderungen an die Modellierung, 4.1 Tag, 4.2 Lokale Bedingungen, 4.3 Deposition, 4.4 Anemometrische Daten, 4.5 Meteorologische Daten, 4.6 Anemometrische Bedingungen, 4.7 Anemometrische Bedingungen, 4.8 Anemometrische Bedingungen, 4.9 Anemometrische Bedingungen, 4.10 Anemometrische Bedingungen, 4.11 Anemometrische Bedingungen, Anhang A bis D, Bibliographie.

Thank you for your attention

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Commissions's tasks (National, European, International)



Government-relieving order

