



## Form for Regular Reporting of Regional Instrument Centres

(please expand the cells as required to properly reflect your activities)

Terms of Reference for Regional Instrument Centres (RICs) are available under:  
<https://www.wmo.int/pages/prog/www/IMOP/instrument-reg-centres.html>

Regional instrument Centre - General Information	
Name of RIC	RIC Hamburg/Oberschleissheim
RIC's website	
Institute hosting RIC	Deutscher Wetterdienst
City	Hamburg and Oberschleissheim
Country	Germany
Regional Association	WMO RA VI

Contact Person for the Regional Instrument Centre	
Courtesy Title	Mr
First name	Holger
Family name	Doerschel
Street and number	Frahmredder 95
Postal code	22393
City	Hamburg
State/Province	Hamburg
Country	Germany
Tel. number(s)	+496980626688
Fax number(s)	+496980626699
Email(s)	holger.doerschel@dwd.de
Has contact person changed since your last report?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

If yes, provide the previous contact person?

### RIC's staff

(Please specify the number of your managerial and technical staff)

- Managerial: One head, situated in Hamburg and one deputy head, situated in Oberschleissheim.
- Technical: six persons (3+3)

### Interlaboratory Comparisons

**Have you organized any interlaboratory comparison in the last calendar year?** (If yes, please specify the event(s) and final reports, including their web links, if available):

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**Have you participated in any interlaboratory comparison in the last calendar year?** (If yes, please specify the event(s) and the report(s), including their web links, if available):

- 2018 an interlaboratory comparison has been started on the initiative of Turkish State Meteorological Service (TSMS). The device is a vane anemometer.
- 2018 an interlaboratory comparison has been started on the initiative of Germany Calibration Service (DKD). The device is a vane anemometer.

### Applied International Standards/Norms

**Is your RIC accredited according to ISO/IEC 17025?**

**Yes** (please, specify the following):

**Accreditation/certification body: DAkkS<sup>1</sup>**

**Date of the last audit: 29.08.2018**

**Link to the Certificate of Accreditation:**

<http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00>

and the appendix: <http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf>

**No** (please, indicate if you have already applied any quality management system, and provide a reason for a lack of accreditation, if possible)

<sup>1</sup> DAkkS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

### Assessment by a recognized authority other than accreditation body

**Was your RIC assessed by a recognized authority other than an accreditation body?** (e.g. certification body, NMI, another RIC)

**Yes** (please, specify the following):

**Name of a recognized authority:**

**Date of the last assessment:**

**Standard against which the assessment was carried out:**

**No** (please, explain why, if possible)

There has been no need until now. The NMI has been involved in the assessment performed by the accreditation body.

### WMO/CIMO [Evaluation Scheme \(excel file\)](#)

**Have you filled out the WMO/CIMO Evaluation Scheme (excel) and submitted it to the WMO Secretariat?**

**Yes** (please, specify when you submitted the most recent one): 2017-11-10

**No** (please, explain why, if possible)

### Calibrations of the Members' Instruments

**Which calibration services, were provided by your RIC for other Members/countries in the last calendar year?** (Please specify)

Year	Type of instruments	Number of calibrated instruments	WMO Member/Country
<b>2018</b>	<b>Ultrasonic Windspeed and Winddirection Sensors</b>	<b>6</b>	<b>ARSO Slovenia</b>

## Capacity Development and Training Activities

**Which capacity development/training activities have been carried out by your RIC within the Region in the last calendar year?** (please specify events, WMO Members that participated and the number of participants)

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**Has your RIC provided services on capacity development and training outside the Region in the last calendar year?** (If yes, please specify to whom and when)

- International Training in Wind Speed Measurements and Calibrations, 12<sup>th</sup> – 16<sup>th</sup> of November 2018, SMN Argentina, in Buenos Aires

**Which guidance documents, standard procedures or other publications were developed and published by your RIC in the last calendar year?** (Please, include full reference and web-link if available)

- 

## Utilization of Resources and Capabilities of the Region

(Have you collaborated with other RICs, RRCs, RTCs, NMHSs or NMIs on standardization of meteorological and other related environmental measurements in the last calendar year? If yes, please specify when and how)

- 

## Recent Changes in Circumstance

**Have there been any changes in your RIC's capabilities in the last calendar year?** (If so, please specify)

- reduced uncertainty 4-wire Pt100 from 50 mK to 30 mK
- extension of the measuring range down from 500 to 100 hPa absolute pressure

**Have there been any significant changes in your RIC's infrastructure in the last calendar year?** (If so, please specify)

- complete renew of 4-wire Pt100 calibration setup; now Fluke Superthermometer 1594A and Fluke bath 7341

**Have there been any changes in your staffing in the last calendar year?** (If so, please specify)

-

**Future Plans and any other relevant information**

(Please provide plans/projects of your RIC for this calendar year, and add any other information you find relevant about your RIC)

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**Are you in agreement with publishing this reporting form on WMO/CIMO website?** Yes No

14<sup>th</sup> of February 2019

Date

Holger Dörschel

Name and Signature of Person in Charge of RIC

## ANNEX

(Following information will be a part of your RIC's website as published on the [WMO/CIMO website](#))

Specific information on Instrument Calibration Capabilities					
<b>Temperature Hamburg:</b>					
Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
4-Wire Pt100	-30 °C to 40 °C	IPRT Nr. 1 IPRT Nr. 2	0,03 K	11.2017 07.2018	DAkKS DAkKS
Digital Thermometer	-30 °C to 40 °C	MBW T12 Thermometer	0,06 K	12.2017	SCS <sup>2</sup>
Status of accreditation (date of the latest accreditation): 15 <sup>th</sup> of September 2017 Link to the accreditation certificate: <a href="http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00">http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00</a> and the appendix <a href="http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf">http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf</a> Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)					
<b>Temperature Oberschleissheim:</b>					
Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
4-Wire Pt100	-30 °C to 40 °C	SPRT Nr. 1 SPRT Nr. 2	0,03 K	03.2018 09.2016	DAkKS DAkKS
Digital Thermometer	-30 °C to 40 °C	MBW T12 Thermometer	0,06 K	12.2017	SCS
Status of accreditation (date of the latest accreditation): 15 <sup>th</sup> of September 2017 Link to the accreditation certificate: <a href="http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00">http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00</a> and the appendix <a href="http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf">http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf</a> Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)					

<sup>2</sup> SCS = Swiss Calibration Service

**Relative Humidity Hamburg:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Digital Hygrometer and Humidity Probes	15 to 95 % @ 20 to 25 °C	Thunder 2500 Nr. 1 + MBW473 Nr. 1 (working standard)	0,006 * U + 0,1 % but not less than 0,4 % of r.H.	02.2019	PTB
		Thunder 2500 Nr.2 + MBW473 Nr. 2 (working standard)		03.2018	PTB

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

<http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00>

and the appendix <http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf>

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

**Relative Humidity Oberschleissheim:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Digital Hygrometer and Humidity Probes	15 to 95 % @ 20 to 25 °C	Thunder 2500 Nr. 1 + MBW473 Nr. 1 (working standard)	0,006 * U + 0,1 % but not less than 0,4 % of r.H.	02.2019	PTB
		Thunder 2500 Nr. 2 + MBW473 Nr. 2 (working standard)		03.2018	PTB

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

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Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

### **Atmospheric pressure Hamburg:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Digital Barometer	100 to 2500 hPa	DHI PG7601 Piston Gauge / AMH38 Automatic Mass Handler + CDG025D Vacuum Gauge	2,0 *10 <sup>-5</sup> * Pabs + 0,0025 hPa	06.2014	PTB
				07.2017	PTB

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

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and the appendix <http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf>

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

Fixed date for calibration of piston gauge and vacuum gage at PTB: June 2019

### **Atmospheric pressure Oberschleissheim:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Digital Barometer	100 to 2500 hPa	Fluke PG7601 Piston Gauge / AMH38 Automatic Mass Handler + CDG025D Vacuum Gauge	2,0 *10 <sup>-5</sup> * Pabs + 0,0025 hPa	07.2015	PTB
				05.2017	PTB

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

<http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00>

and the appendix <http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf>

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

Fixed date for calibration of vacuum gage at PTB: June 2019



## Wind Hamburg:

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Cup- and Ultrasonic-Anemometer	0.15 to 50 m/s	Wind tunnel + 2D Laser Doppler Anemometer	1,2 % of reference but not less than 0,1 m/s	10.2018	PTB <sup>3</sup>
		Burst Spectrum Analyzer		01.2019	DAkKS <sup>4</sup>
Ultrasonic-Anemometer and Wind-Direction Gauges	0 to 360 °	Wind tunnel + Laser Doppler Anemometer + Precision turntable  transfer standard: angular encoder	0.9 °	03.2017	DAkKS

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

<http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00>

and the appendix <http://www.dakks.de/as/ast/d/D-K-11170-01-00.pdf>

Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

## Wind Oberschleissheim:

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
Cup- and Ultrasonic-Anemometer	0.15 to 50 m/s	Wind tunnel + 2D Laser Doppler Anemometer	1,2 % of reference but not less than 0,1 m/s	01.2018	PTB <sup>5</sup>
		Burst Spectrum Analyzer		01.2019	DAkKS <sup>6</sup>
Ultrasonic-Anemometer and Wind-Direction Gauges	0 to 360 °	Wind tunnel + Laser Doppler Anemometer + Precision turntable  transfer standard: angular encoder	0.9 °	03.2017	DAkKS

Status of accreditation (date of the latest accreditation): 15<sup>th</sup> of September 2017

Link to the accreditation certificate:

<http://www.dakks.de/en/content/accredited-bodies-dakks?Regnr=D-K-11170-01-00>

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Accreditation body: Deutsche Akkreditierungsstelle GmbH (DAkKS)

<sup>3</sup> PTB = Physikalisch Technische Bundesanstalt / The National Metrology Institute of Germany

<sup>4</sup> DAkKS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

<sup>5</sup> PTB = Physikalisch Technische Bundesanstalt / The National Metrology Institute of Germany

<sup>6</sup> DAkKS = Deutsche Akkreditierungsstelle GmbH / German Accreditation Body

### **Precipitation Hamburg:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
weighing + tipping bucket precipitation gauge	intensity 0,1 ... 10 mm/mm	Scale KERN PBJ 6200-2M + mass pieces	0,01 mm / min	05.2017	DAkKS
weighing precipitation gauge	intensity 0,1 ... 10 mm/mm	Scale KERN PBJ 6200-2M + Pump ISMATEC MCP-CPF Process ISM919	0,01 mm / min	05.2017	DAkKS

Status of accreditation (date of the latest accreditation): not accredited

Link to the accreditation certificate:

Accreditation body:

### **Precipitation Oberschleissheim:**

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body
weighing + tipping bucket precipitation gauge	intensity 0,1 ... 10 mm/mm	Scale KERN PBJ 6200-2M + mass pieces	0,01 mm / min	02.2017	DAkKS
weighing precipitation gauge	intensity 0,1 ... 10 mm/mm	Scale KERN PBJ 6200-2M + Pump ISMATEC MCP-CPF Process ISM919	0,01 mm / min	02.2017	DAkKS

Status of accreditation (date of the latest accreditation): not accredited

Link to the accreditation certificate:

Accreditation body:

**Other** (please specify if applicable):

Instrument Undergoing Calibration	Calibration Range	Reference Standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference Equipment	
				Last Standard Calibration Date	Calibration Body

Status of accreditation (date of the latest accreditation):  
Link to the accreditation certificate:  
Accreditation body:

\* A **CMC (calibration and measurement capability)** is the smallest uncertainty ( $k=2$ ) of measurement that can be expected to be achieved by the RIC during a calibration under normal conditions. This CMC is evaluated by the RIC itself and described in the scope of accreditation of the RIC, if available.