

## 1.2 Rooms and facilities

PTB has two sites: Braunschweig and Berlin. All PTB sites are protected against external access by unauthorized persons, the access being checked by guards. On the strength of legal regulations and for reasons of data protection, objects needing particular protection are locked with independent protective systems and protected against forbidden actions. All rooms are connected to a security locking system.

The **QP "Access to PTB-Areas and use of Rooms"** lays down the principles of use for the permanent facilities of the PTB sites mentioned under a) and b), including regulations to maintain order and cleanliness. The **QP** regulates also the access to buildings, rooms and permanent facilities of the PTB sites mentioned under a) and b). The access and location maps for these PTB sites can be found on the PTB Internet pages (<https://www.ptb.de/cms/en/about-us-careers/about-us/facts-about-ptb.html>). The further development of the PTB locations follows a master plan that takes into account the modernization requirements and is continuously adapted to current developments.

### a) Braunschweig site

The main site is a flat 103 ha, almost square, area with a usable floor area of approx. 120 000 m<sup>2</sup>. The site is located in the north-west of the city of Braunschweig, about 3.3 km south of the Hanover-Berlin motorway. In the north and in the east, it borders directly on arable land. In the west, the B 214 runs past, which is used only by suburban traffic. Beyond it, there are areas of arable land. In the south, there is a residential zone without industry. The traffic which drives on the access road B 214 to the motorway about 700 m away in a northerly direction does not have a disturbing influence as regards vibration emissions in the region of the critical frequencies. Owing to the distance (3 km) from the PTB site, critical shocks from the motorway traffic are ruled out. Thereby, immissions due to low-frequency vibrations are largely avoided. Air pollutants have been limited to the necessary extent by relocating the heating station (distance 2 km) and by laying down specific conditions for the surrounding residential zone (as regards the burning of gas). Within a perimeter of 3.5 km, the establishment of major industries, and within 2 km, the establishment of contiguous areas with industrial undertakings are excluded. The area is built up according to the high metrological demands placed on the measuring set-ups as regards freedom from disturbance. Buildings which, from a metrological point of view, are to be regarded as critical (e.g. the Heisenberg Building, which has a non-magnetic room) are situated at a sufficient distance from the other buildings. The traffic on the PTB premises is calmed by a ring road on the outskirts of the site. Special zones with emission protection (detonations) are available in the north of the site.

### b) Berlin site (Berlin Institute) Charlottenburg

The Charlottenburg site is situated in the Charlottenburg-Wilmersdorf district, not far from Ernst Reuter Platz and Berlin Technical University. In 1887, the Physikalisch-Technische Reichsanstalt was founded on the premises of PTB's Charlottenburg site. The site comprises an area of 43 450 m<sup>2</sup>. The site is listed as an ensemble and has individual, individually listed buildings. The total usable area of all buildings is 26 531 m<sup>2</sup>. The site consists of two squares, which are divided more or less in halves by Abbe Straße (of which a part is no longer classified as a public street). For the long-term urban development of the whole campus, a structural master plan has been drawn up in cooperation with the respective planning departments. The adjacent properties partly comprise multi-storey apartment houses, partly a bank tower block and institute buildings of Berlin Technical University.

### Adlershof

In the Science and Technology Park Berlin-Adlershof and in direct vicinity to the Electron Storage Ring BESSY II of Helmholtz-Zentrum Berlin, PTB has established the Willy Wien Laboratory - with a main useable area of 2.116 m<sup>2</sup> on an area of approx. 6 654 m<sup>2</sup> - in which a dedicated low-energy storage ring, the Metrology Light Source (MLS), is operated and used as a synchrotron radiation source. At Bessy II, PTB operates a laboratory for metrology in the X-ray region.

If calibrations and tests, or measurements related to these, are performed outside the above PTB sites, the specifications of the **QP "Calibrations, tests and measurements outside the permanent PTB facilities"** apply. Examples are:

- ⇒ the high-pressure test rig PIGSAR on the Ruhrgas AG site in Dorsten, which makes available to PTB the infrastructure required to operate the national standard for the volume of high-pressure natural gas and renders support to PTB in the dissemination of the unit to third parties, as well as
- ⇒ the **Underground Laboratory for Dosimetry and spectrometry (UDO II)** in the salt mine Braunschweig-Lüneburg of *esco GmbH & Co. KG* in Grasleben (administrative district of Helmstedt), which is used by PTB Division 6 "Ionizing Radiation" for calibration and research and development work in the field of small dose rates.

Detailed descriptions of all rooms and facilities in accordance with the requirements of DIN EN ISO/IEC 17 025 can be found in the activity-specific working instructions and quality records of the divisions.

Edition No. : 08	created by: Central Quality Management	on: 2023-05-02	Chapter 1.2	Page of pages 1 of 1
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