Air quality assessment
In Hamburg, air quality is affected by emissions from industry, transport and building use (heating systems, ovens, fireplaces). We assess how severely the air quality is impacted with the help of special air monitoring programs and with 15 monitoring stations in continuous operation. Together, they make up Hamburg’s air monitoring network (HaM), which provides data that can also be accessed online: https://luft.hamburg.de/

Is our soil contaminated?
The HU analyzes soils, waste products and residual materials and helps answer questions such as: Should I worry about my children digging holes at the playground? How contaminated is the soil in allotment gardens? Is the subsoil of a former industrial area contaminated with heavy metals? Our measurements provide the answers.

The quality must be right!
Our institute not only carries out official environmental testing itself but it is also responsible for verifying the qualification of laboratories as well as approving these as recognized testing bodies for specific analyses regulated by law. Intercomparison programmes, which are organized by the HU, ensure that the results produced by laboratories can always be compared. The HU is accredited in accordance with the international standard DIN EN ISO/IEC 17025 or DIN EN ISO 15189.

Focus on the environment
The Institute for Hygiene and Environment (HU) analyzes air, soil, water and other environmental media for the Hamburg Environmental Authority. We also operate automated measuring networks so that we can monitor bodies of water, the air and radioactivity.

The many faces of water
Whether drinking water or groundwater, the Elbe or Alster, a fishpond or swimming lake, an ecosystem or wastewater – we examine pollutants and water quality. Our activities also include supporting the organizers of large events; for example, by testing the blue-green algae levels in the Alster before the Hamburg Triathlon. We also regularly check the water quality of public swimming pools.

Water quality monitoring network
The HU runs ten measuring stations (one mobile and nine permanent) at bodies of water in Hamburg. These stations continuously provide us with important information. How warm is the water in the Alster right now? What is the oxygen content of the Elbe? The data provided by the water quality monitoring network is available not only to the HU, but also to all members of the public. It can be viewed online for free on the app "Gewässerdaten Hamburg" (Hamburg Water Data) or at https://gateway.hamburg.de.

Beware of genetic engineering?
The genetic engineering monitoring laboratory examines the safety of genetic engineering operations in research laboratories and inspects whether imported products contain genetically modified plants that are not permitted in the EU. The aim is to prevent the uncontrolled spread of these plants.

Institute for Hygiene and Environment
The Institute for Hygiene and Environment (HU) is an organization within the Ministry of Environment, Climate, Energy and Agriculture of the Free and Hanseatic City of Hamburg. It is divided into three specialist areas: food safety and zoonosis, hygiene and infection medicine, and environmental testing. Around 300 employees from the fields of natural science, medicine, technology, laboratory science, administration and other specialized fields are committed to observing the state of the environment, averting possible risks to humans, animals and nature, protecting consumers from defective products and maintaining the health of the general public.

As an indication of the high quality of our services, all laboratory departments are accredited in accordance with the international standard DIN EN ISO/IEC 17025 or DIN EN ISO 15189.

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INSTITUTE FOR HYGIENE AND ENVIRONMENT
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Hamburg Public Laboratories for Food Safety, Health Protection and Environmental Assessment
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Focus on food and feed

On behalf of the Hamburg public authorities and districts, the Institute for Hygiene and the Environment (Institut für Hygiene und Umwelt - HU) conducts laboratory tests on foodstuffs, animal feed, consumer goods, cosmetics and tobacco products. Samples are regularly taken from official monitoring by the specialist authorities and districts, e.g., at manufacturing companies, in retail stores or in restaurants, and delivered to the HU for testing. This also includes samples that are received by districts due to consumer complaints.

Border controls for Europe

Many of the goods imported from third countries into Germany and the EU arrive via the Port of Hamburg and the Hamburg Airport. Not all goods comply with European requirements and laws. Therefore, the HU conducts large scale examinations of import controls and products large scale examinations of import controls and checks whether the goods meet the legal requirements.

Customized analyses

The testing method used by our experts depends on the sample type. In some cases, technical experts can tell just by smelling and tasting whether there is a reason for complaint. However, modern instruments and analysis methods are also frequently used. Depending on the type of product, we examine, for example, whether the food contains pathogenic germs, residues of fungal toxins or whether the limit values for pesticide or veterinary drugs are complied with.

Fraudulent labeling?

In addition to the product itself, we also check product packaging and labels. Are all ingredients listed? Are the expiration date and allergy warnings present and legible? The composition of products is analyzed and compared with the information on the label. Products are rejected if legally required information is missing or in case of consumer fraud; for example, if honey is replaced by a sugar solution or a cheap lemon sole is fraudulently sold as a premium Dover sole.

Textiles, tubes and tobacco

Products that are not intended for consumption but come into direct contact with the human body, such as cigarettes, clothing or cosmetics, are also tested in our laboratories. Is the composition of the lipstick harmful? How many hazardous substances are contained in a cigar? Are there any allergenic pigments in fan jerseys? With the help of this information, we also distinguish branded goods from counterfeits.

Healthy animals – healthy people

The HU conducts veterinary medical examinations to detect diseases in wild animals and livestock at an early stage – on both a random basis (wildlife monitoring) and as the situation requires (avian flu). We also determine the cause of death in animals (incl. pets) for private individuals or public prosecutors. And last but not least, we also scrutinize the hygiene of animal products, as some pathogens can also be transmitted to humans.

What blood and stool samples reveal

In the field of infection medicine, the HU tests samples (e.g., blood, stool, swabs) for pathogens using classic and state-of-the-art methods. We identify viruses such as SARS-CoV-2, HIV or hepatitis viruses as well as pathogens that cause gastrointestinal diseases such as salmonella, E. coli, noroviruses and many other germs. By accurately identifying these germs, the HU helps to explain disease outbreaks and their causes and disrupt the chains of infection. Our antibiograms show the most effective antibiotic for treatment. With increased frequency, we are discovering resistant germs that can have serious consequences for ill people and for hygiene.

Little jabs with a big impact

“Prevention is better than healing”: this is the motto of the Center for Vaccination Medicine of the Free and Hanseatic City of Hamburg, which is run by the HU. Here, health care professionals provide all recommended vaccinations for adults and children and also offer medical consultation for travelers. The Center for Vaccination Medicine is also a government-approved yellow fever vaccination site.

Traveling pathogens

Whether the ebolavirus, coronavirus, norovirus or other disease outbreak, the Hamburg Port Health Center (HPHC) is on hand when ships or airplanes stop in Hamburg with severely ill people on board. The HPHC conducts examinations, takes samples and speaks with all parties concerned, in order to help ill patients and prevent or reduce the spread of pathogens. In cases of doubt, a quarantine can also be announced.

Hygiene competence for Hamburg

Nationwide, up to seven percent of all hospitalized patients fall ill due to health-care-associated infections. To improve hygiene, the HU advises hospitals and other health-care and nursing facilities, and regularly conducts site visits and inspections in these facilities. In addition, we train specialized hygiene, nursing and medical staff. We also support local health authorities for example, by reviewing hygiene concepts during the pandemic.

Diseases under observation

The Hamburg State Center of Infectious Disease Epidemiology is also a part of the HU. Here, the spread of diseases that are subject to reporting obligations in Hamburg are documented in a central database and analyzed with the aim of early detection and effective prevention and treatment. This information is not only passed on in bundled form to the Robert Koch Institute, it’s also regularly published in overviews and interpretations of reporting figures online: https://www.hamburg.de/hu/infekt-info/.

Pest control

Hamburg, as a major international port and distribution center, is an El Dorado for pests. They can contaminate food supplies, damage buildings and even transmit diseases. To contain the spread of pests, the HU is tasked with the control of rats and other pests in public buildings and facilities. We also offer expert advice to private individuals.