



Water Purification

Clean water, for drinking as well as for other purposes, is a self-evident, nevertheless essential pre-requisite for everyone.

How can this be ensured when components of the Bundeswehr are on deployment or have to fulfill their mission in a contaminated environment? The business field of water purification of the WIS attends to this problem.

Decontamination

Having been exposed to biological or chemical warfare agents, radioactive fallout or Toxic Industrial Chemicals, troop formations as well as mission-essential materiel needs to be decontaminated as soon as possible and mission allows. This is the only way to ensure that the damaging effects are minimized and mission readiness is re-established.

WIS is testing and evaluating technologies and systems for NBC-decontamination. It accompanies and channels new developments from industry and, by means of own evaluation and research programs, contributes to the procurement of material- and environmental compatible decontamination agents and technologies with a smaller logistic footprint.



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Research - Verification - Guidance
For the Safety of our Soldiers

Bundeswehr Research Institute for Protective
Technologies and CBRN Protection



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The Bundeswehr Research Institute for Protective Technologies and CBRN Protection (WIS)

in its core functions attends itself to the protection against biological, chemical and nuclear Weapons of Mass Destruction and their impacting components. In addition, fire protection engineering, protection against strong electromagnetic fields and water purification are foci of WIS' work. As a research institution of the German Department of Defense, it produces the scientific and technical basis in its field of work and ensures the national expertise in this area. It contributes to the processes of determination of requirements and fulfillment of demands through professional expert contributions in the form of studies, demonstrators or assessments in coordination with the respective user and the project management.

Employing about 200 mostly scientifically qualified co-workers WIS works on all aspects of detection, individual and collective protection, and treatment of contaminated materiel. To this extent, WIS takes advantage of its laboratories, technical installations and full-scale test installations. Closely interwoven with these tasks are activities within the framework of the verification of the conventions for the prohibition of biological and chemical weapons. Furthermore, problems in the area of occupational health protection and environmental protection that are closely related to the activities of the Bundeswehr are examined and the Bundeswehr's central collection point for radioactive waste is operated by WIS.



Detection

Detection systems serve the purpose of detecting and identifying nuclear radiation as well as biological and chemical warfare agents. Starting from laboratory methods via hand-held devices up to and including innovative sensors WIS performs basic research for new and improved detection technologies. It develops breadboard models and examines industrially manufactured prototypes with respect to their performance and their suitability for use in the German Armed Forces.

Through use of its expertise WIS contributes to the procurement of materiel and the preservation of its operability.

Protective Equipment

Core Components of the soldier's Individual Protective Equipment are the respirator and the personal NBC protective suit, the Overgarment. Missions in hot climate zones as well as new threat scenarios call for physiologically improved protective equipment with increased protection factors.

The basic research for these projects is performed at WIS and breadboard models are optimized in close co-operation with industry. After fielding is completed, quality inspection accompanying the procurement process ensures that the high performance is kept throughout the whole period of use of the equipment.



Electromagnetic Effects

Defense materiel must be hardened against the effects of thermonuclear weapons. In a given distance from ground zero it has to resist all effects of thermonuclear weapons and its essential functionality must be sustained.

Especially electromagnetic fields may damage or destroy non-hardened electronic components of various kinds already from a long distance.

WIS is well positioned to determine the existing protection and to devise specific concepts for its improvement.

Fire Protection Engineering

The potentially devastating consequences of a fire are quite clear to everyone. It is understood that the Bundeswehr has to protect itself against these consequences, in-country as well as during deployments. Points of emphasis are fire detection, fire suppression with automated extinguishing systems and environmentally friendly fire extinguishing agents for applications specific to armed forces.

Aside from technical evaluations, large-scale fire tests can be performed to demonstrate fire-fighting measures with respect to real-size objects.

