

IUB Rescue Robots

Unselfish helpers for Rescue Missions

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Mobile robots can be highly valuable tools in urban rescue missions after severe disasters like earthquakes, bomb- or gas-explosions. The robots can be used to inspect collapsed buildings, to assess the situation and to search and locate victims. There are many engineering and scientific challenges in this domain. Rescue robots not only have to be designed for the harsh environmental conditions of disasters, but they also need advanced capabilities like intelligent behaviors to free them from constant supervision by operators.

The International University Bremen (IUB) is since 2001 actively engaged in this research field.

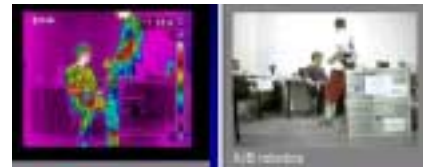


The American National Institute of Standards and Technologies (NIST) has developed a special training environment for testing purposes. These so-called rescue arenas are for example used in RoboCup competitions where the approaches of different teams are compared and evaluated.

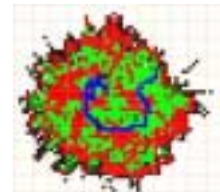
IUB has since spring 2004 the first rescue arena in Northern Europe.



The IUB Rescue Robots are complete in-house developments based on the so-called CubeSystem, a collection of hardware and software components for Fast Robot Prototyping.



The development of intelligent behaviors is in addition to the robots' mechatronics a great challenge in this area. The robot must for example autonomously detect victims and hazards. Special sensors like CO₂ detectors and Infrared cameras can be helpful to detect humans.



The IUB Rescue Robots are world wide leading in their capabilities to autonomously generate maps to lead rescue workers to victims.

