

WHEN SOUND IS NOT JUST SOUND

In Building 354, DTU Electrical Engineering is able to simulate spaces and surroundings through sound.

Complex measurements require highly specialized facilities, and the rooms in which measurements are being conducted must meet very specific requirements. With the new facilities for DTU Electrical Engineering, Hearing Systems, the University has some of the world's most sophisticated laboratory facilities within audiovisual research, while its other hearing research facilities are also being developed.

One of the two distinctive black boxes which have grown out of the existing building houses an audiovisual immersion lab, or anechoic chamber. Here, it will be possible to simulate both visual and acoustic signals in different rooms and surroundings while at the same time investigating fundamental questions about the interplay between spatial hearing and audiovisual stimuli. Moreover, it is possible to create realistic acoustic scenes, for example for testing hearing aids. In the same new building, a psychoacoustics lab has been built with

four soundproof listening booths for acoustics studies and experiments using headphones or loudspeakers to study the auditive properties of test persons with normal hearing and test persons with hearing aids or cochlear implants.

In a communication lab, two rooms have been knocked into one, and two new booths installed. Here, it is possible to study communication between two people through the systematic manipulation of acoustic and visual information. The second new extension houses the physiology lab with acoustically and electromagnetically shielded sound booths.

The booths can be used to study where and how the brain processes acoustic and audiovisual information. For some experiments, the test persons have to wash their hair afterwards, so a shower room has also been installed. ■



FACTS

Area:
400 m² new construction
and 147 m² renovation

Budget:
DKK 18.2 million

Architects:
Rørbæk og Møller
Arkitekter

Engineers:
Alectia

Primary contractor:
CC Bruh Entrepriise

**Laboratory
equipment:**
IAC Acoustics DK

