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Fraunhofer Institute for Digital Media Technology IDMT

Personal Sound Zones

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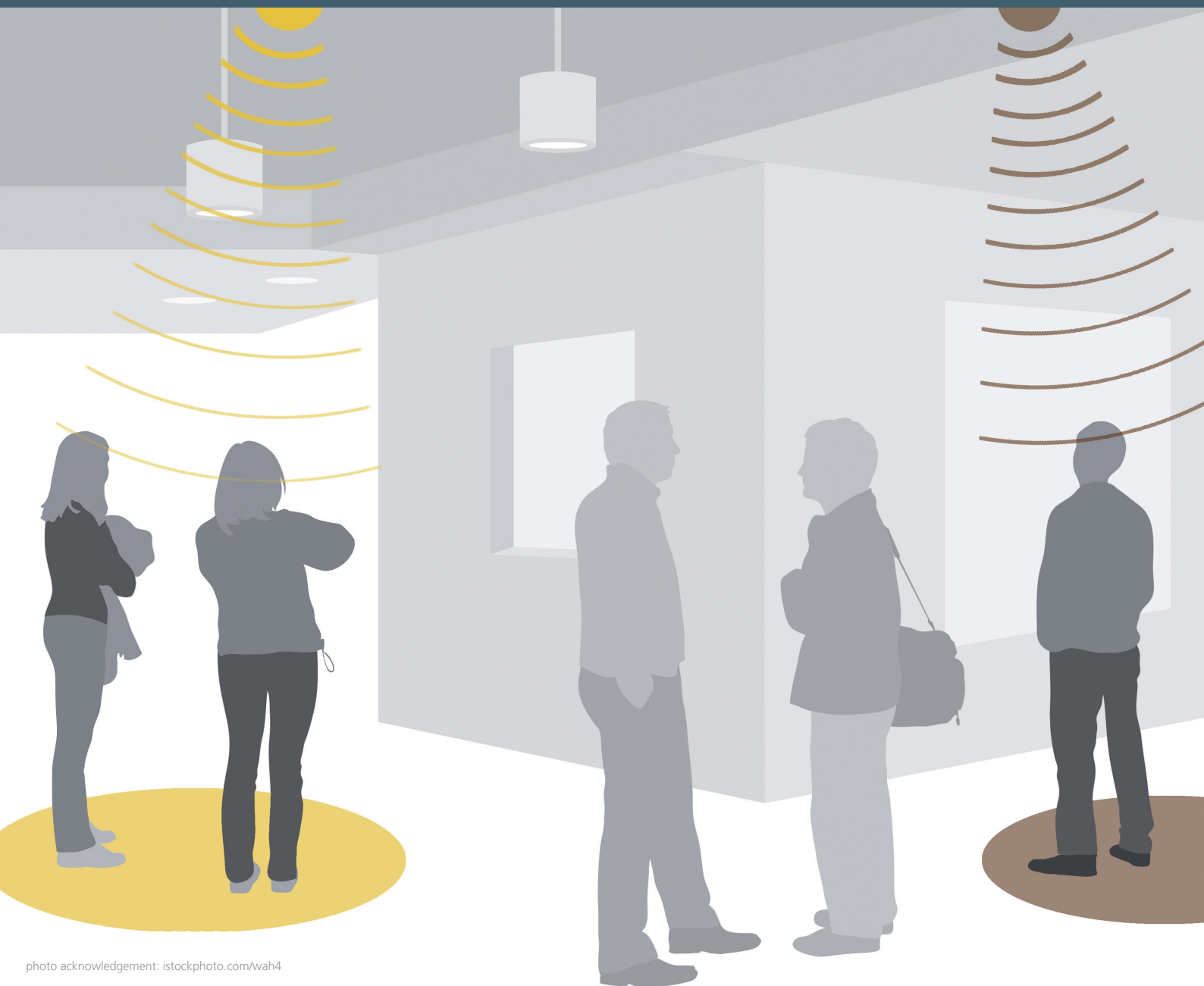Phone +49 3677 467-385
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Using Personal Sound Zones technology by Fraunhofer IDMT, any room can be subdivided into several acoustic sections. Each of these sections provides a personal sound zone, in which the listeners can enjoy their individual sound without being disturbed by sound from adjoining zones.

One room, multiple sound sources

By creating personal sound zones different audio content can be played in different areas in one room at the same time, making headphones or earbuds no longer a necessity. The system is based on an elaborate signal processing concept. It uses an array of mini-loudspeakers, which can be positioned freely across the room and which can be dynamically controlled, in order to emit sound only to defined areas.

Multiple listeners, individual sound volume

In case of several people listening to the same audio source at the same time, Personal Sound Zones allows adjusting the volume for each listener individually. As each person is provided with their personal sound zone, watching TV together with other people, for example, can be tailored to accommodate individual needs.

Selective sound suppression

Personal Sound Zones also allows creation of »quiet zones«, in which sound is suppressed selectively, so that sound coming from adjoining zones is only minimally perceived.

Potential application

- To provide individual sound for travelers in vehicles and airplanes
- To enjoy sound from mobile devices like smartphones or tablets without using headphones or earbuds
- To create individual sound zones in supermarkets or museums, or at exhibitions or trade shows

Features

- Use of central loudspeaker array for creation of multiple sound zones
- To be used with any loudspeaker allowing variation of array geometry and scaling of array size