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The next generation of artificial heads

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Standardised artificial heads are vital means when it comes to describing the binaural transmission from the sound field into the ear canal or rather the eardrum. In recent years numerous fields of application were created ranging from room acoustics, to product sound design or telecommunications, all based on the well-known KEMAR standard IEC TR 959.
In the meantime, however, it has become a well-known fact, that a) specific artificial heads with natural heads or replicas in hearing experiments are superior to standard artificial heads as far as the quality of spatial hearing is concerned and that b) the standardised heads do not comply with the dimensions of an average population (the standard heads are too small).
In this contribution first of all today's situation will be assessed and then a possible way will be outlined that could lead to a new future artificial head standard. This includes an adequate match with adult population for various continents, and also new approaches such as children-size artificial heads to measure and fit hearing aids or for new measurement techniques for classroom acoustics.