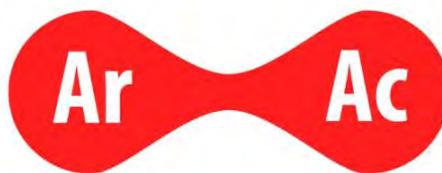




Lifelong  
Learning  
Programme



M U L T I B O O K  
of Architectural Acoustics



**ArAc** MULTIBOOK

*This project has been funded with support from the European Commission under the Lifelong Learning Programme.*

*This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



The aim of this project is to develop an innovative vocational e-learning tool to support architects in acquiring acoustic key competences.

The Multibook of Architectural Acoustics is an application for mobile devices (tablets, smartphones; both for iOS and Android) and e-learning platforms, available in four languages. The multibook is the first application of this kind in the form of an acoustics manual for architects. The user has mobile access to information at any time and in any place.

## PRODUCT

multibook application for:

- iOS and Android devices (smartphones and tablets)
- website

## PARTNERS

KFB POLSKA

KAHLE ACOUSTICS

WROCŁAW UNIVERSITY OF TECHNOLOGY

KATHOLIEKE UNIVERSITEIT LEUVEN

GFAI TECH



XI.2013



start of the ArAc project

WORK IN PROGRESS

IV.2015



end of the ArAc project  
FINAL PRODUCT

WORKSHOPS



WORK IN PROGRESS





The main purpose of the ArAc multibook (an interactive publication) is to fill the gap in technical literature innovatively and to increase architects' awareness about the role acoustic comfort plays in the life of humans.

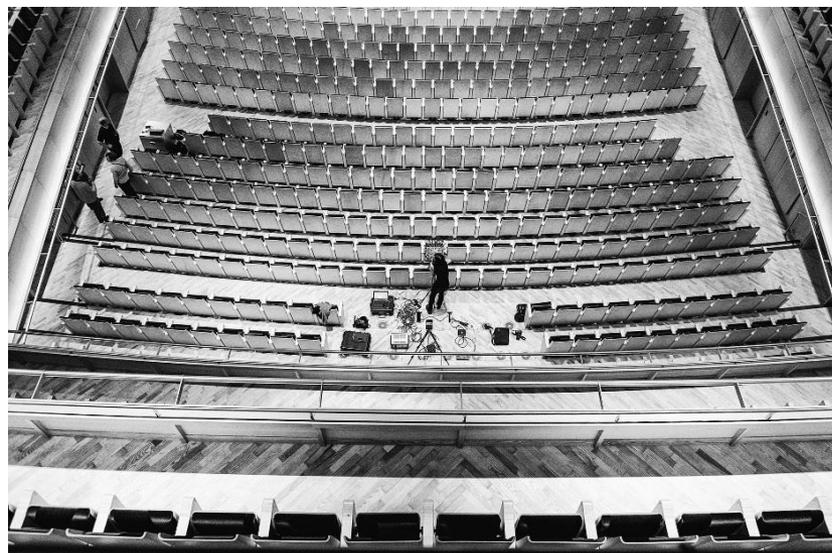
Content of the multibook:

- **theoretical part** | Scientific content which explains the nature of acoustic phenomena and problems in an efficient way
- **practical part with case studies** | This part demonstrates how two disciplines, acoustics and architecture, merge and exploit their knowledge
- **interesting issues/ cases** in the field of architectural acoustics

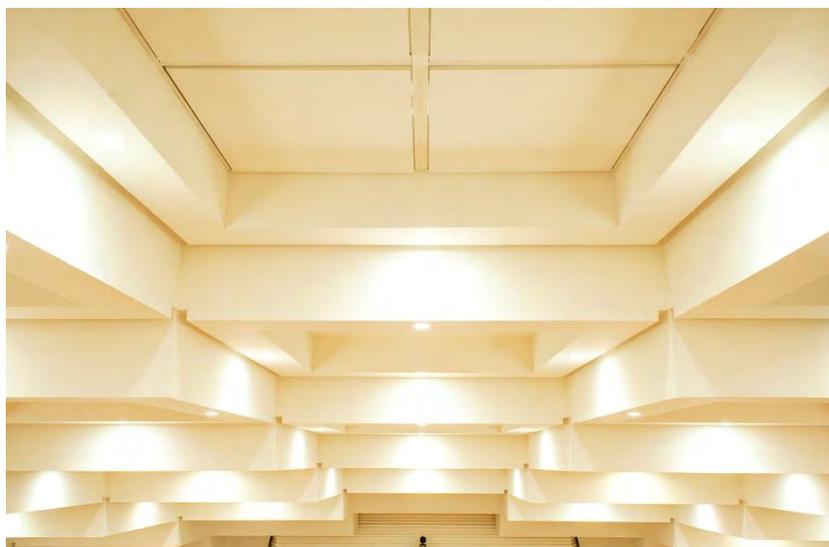
The multibook is enriched with audio, image galleries, animations, instructional videos and elements of interactive infographics.

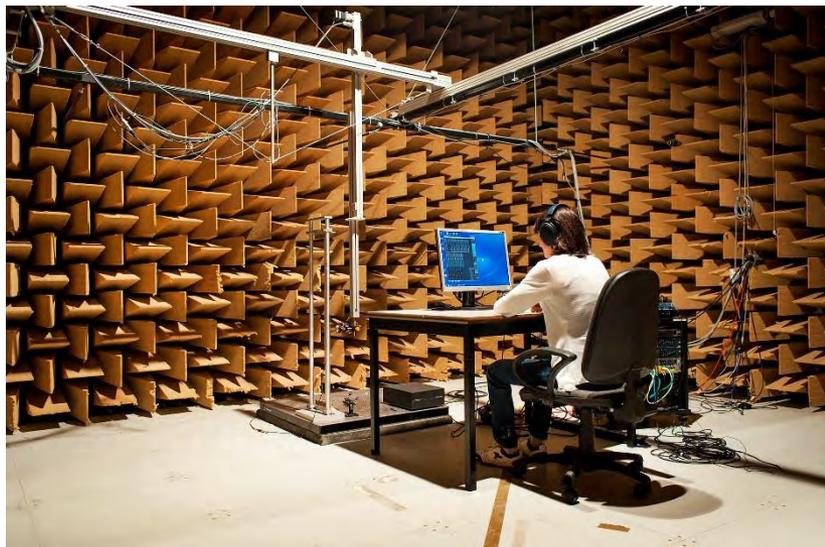


Example of materials from ArAc multibook  
**CASE STUDY: STAVANGER | KONCERTHUS**



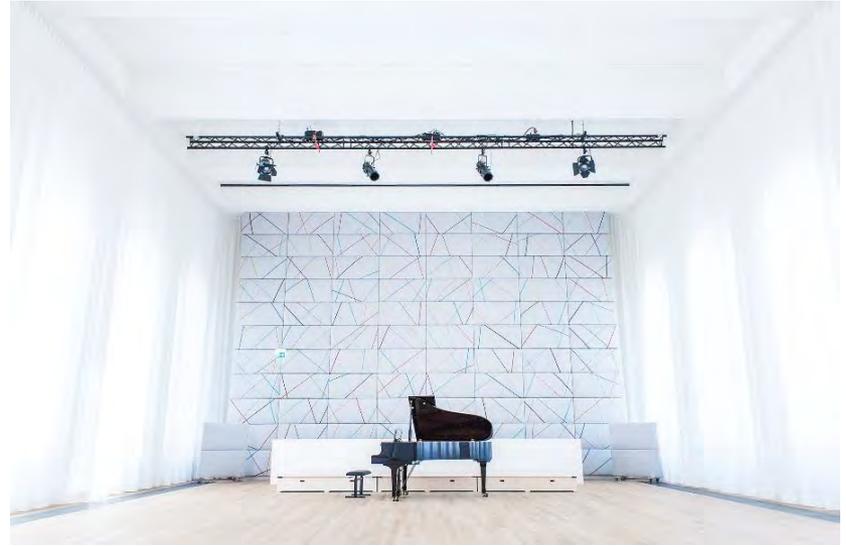






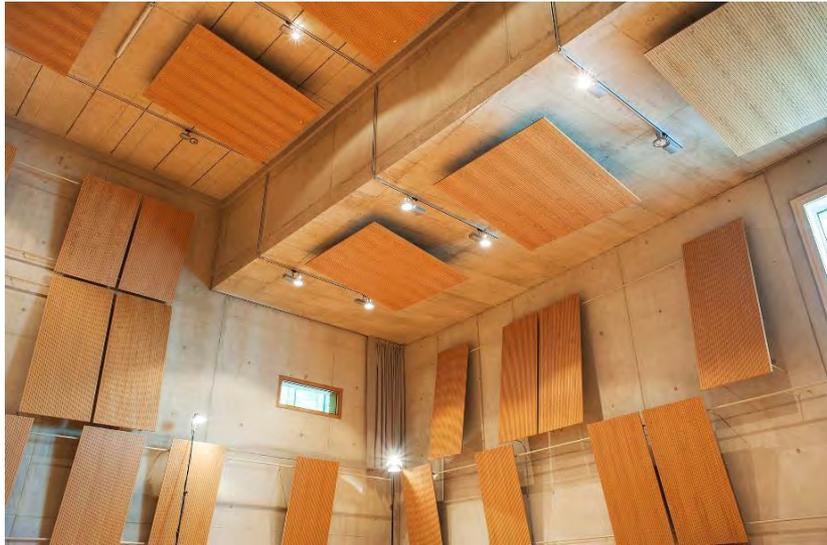


**CASE STUDY: RHEINAU** | MUSIC INSEL





**CASE STUDY: FREIBURG | ENSEMBLEHAUS**



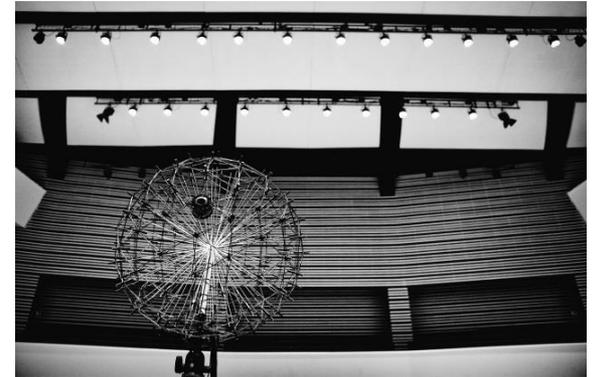


## ACOUSTIC MEASUREMENTS

The **Acoustic Camera** is a beamforming device consisting of a microphone array with a built-in digital camera, a data acquisition unit/ data recorder and a computer running the measurement and analysis software NoisImage. Measurement results are represented in the form of acoustic maps that can be superimposed on pictures of the actual measurement scene (built-in digital camera) or even 3D models to identify the acoustic properties of the object (product/ room/ building/...) at hand.

A **3D laser** is used for obtaining three-dimensional geometries. These scans are then used to visualize the results of Acoustic Camera measurements on 3D models.

Together with the 3D laser, the Acoustic Camera represents a powerful tool which provides the possibility to “see sound”.

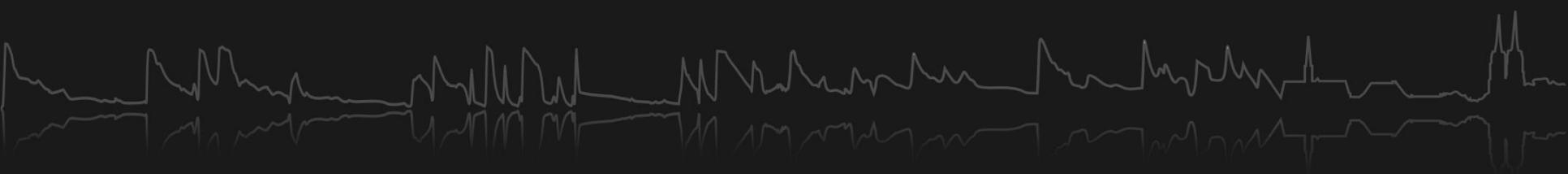




The finalized **ArAc multibook** will be available from the Appstore and Google Play for free starting April 2015.

More information can be found on the project website:

[www.arac-multibook.com](http://www.arac-multibook.com)



**MULTIBOOK  
of Architectural  
Acoustics**

**Ar**

**Ac**

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