



EUROPEAN UNION

European Regional
Development Fund

Senate Department
for Economics, Energy
and Public Enterprises



WITH VR HEADSET TO THE ORCHESTRA

CLASSICAL MUSIC IS ONLY FOR OLD PEOPLE? NOT AT ALL! This is demonstrated by *Konzerthaus Berlin* and the *University of Applied Sciences Berlin (HTW)* with their joint project *APOLLO*. Ten experts of both institutions as well as students have continuously been working on the design and implementation of a virtual music experience since 2016, in order to get many and in particular also young people enthusiastic about classical music. The result? Impressive!

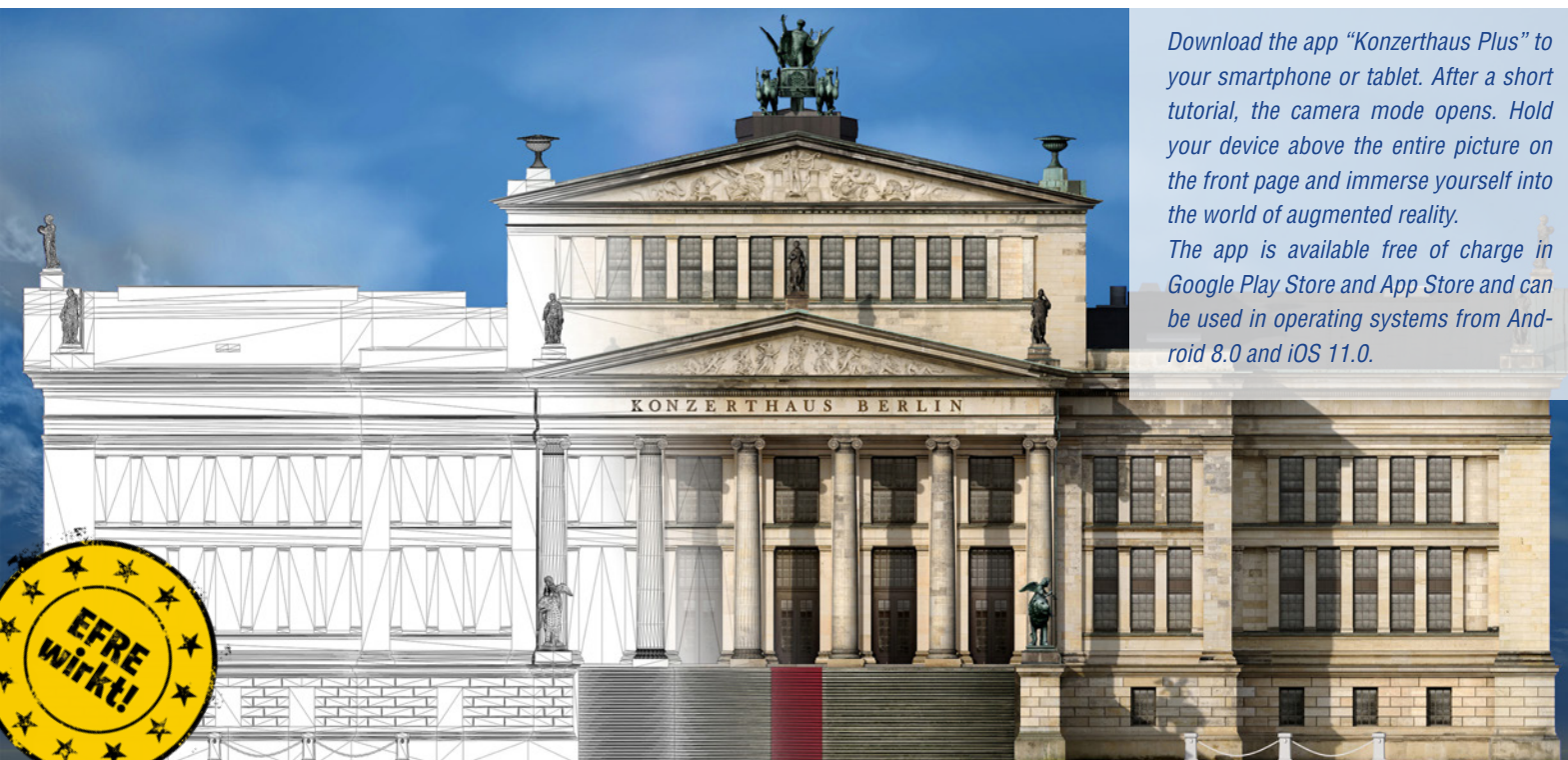
WITH THE APP “KONZERTHAUS PLUS”, which has been developed in the course of the project, the users can, for example, conjure up the world’s first virtual string quartet. It is also possible to listen to the animals at Berlin Zoo or the background noise of a snack bar – all imitated by musical instruments. Or you are suddenly standing in the middle of the orchestra after you have put on your VR glasses: perhaps next to the first violin, which is playing the fourth symphony by Felix Mendelssohn Bartholdy, while information about the composer appears above the heads of the violas. The extended reality levels, which are used by *APOLLO* for a unique musical experience outside the concert hall to reach new target groups and combine two worlds, are called augmented reality (AR) and virtual reality (VR). In addition, the project is exploring the possibilities of making this technology applicable also for other industry sectors.

THE CONNECTION OF CLASSICAL MUSIC AND STATE-OF-THE-ART TECHNOLOGY is an exemplary innovation, which was only made possible with the cooperation between *Konzerthaus Berlin* and the research group INKA at *HTW*. As part of the funding priority 1 – Infrastructure for science and research – the European Regional Development Fund (ERDF) co-financed 50 % of the project. In doing so, ERDF intends to strengthen the transfer of research between science and economy.

»FULL OF EXCITEMENT, YOUNGSTERS ARE CONVINCING THEIR GRANDPARENTS TO PUT ON THE VR HEADSET AND TO EXPERIENCE THE ORCHESTRA VIRTUALLY. THIS IS A NEW DIMENSION FOR EVERYONE, WHICH FASCINATES PEOPLE WORLDWIDE ACROSS GENERATIONS.«

Prof. Dr. Dr. h. c. Jürgen Sieck, *Project Manager of APOLLO and Scientific Director of the research group “Information and Communication Applications” of HTW Berlin*

Download the app “Konzerthaus Plus” to your smartphone or tablet. After a short tutorial, the camera mode opens. Hold your device above the entire picture on the front page and immerse yourself into the world of augmented reality. The app is available free of charge in Google Play Store and App Store and can be used in operating systems from Android 8.0 and iOS 11.0.



htw Hochschule für Technik
und Wirtschaft Berlin
University of Applied Sciences

THE KONZERTHAUS BERLIN AT YOUR HOME

The success of the project is projected **far beyond the boundaries of Berlin**: Since its **opening in spring 2018**, the **permanent exhibition** in the vestibule of the concert hall, which is presenting the individual digital projects and provides VR headsets to try out, has attracted the interest of visitors from all over the world; the app has already been **downloaded on all continents**. Companies and concert halls in other towns and cities are also showing a lot of interest in this special innovation. Implementation is, however, time-consuming and expensive, and is developed and tested only gradually with *APOLLO*. The project of *Konzerthaus Berlin* is currently still **unique** for companies and industries in Berlin and can therefore lead the implementation of VR applications in the cultural industry.

THANKS TO ERDF, CLASSICAL MUSIC IS NOW PROVIDED IN DIGITAL FORM

With the joint project, the concert hall is seeking to inspire the population at large and, in particular, young people with classical music, whereas *HTW* is looking primarily to draw attention to the so-called *MINT* subjects (Mathematics, Information technology, Natural sciences and Technology). **Thanks to funds provided by ERDF**, both can be achieved in unison, which is outstanding and shows **Berlin's innovative capacity** from a new perspective. The experiment has been a success and has demonstrated how modern technology can be used: To preserve **long-established cultural heritage** and to unite several generations with thanks to its conveyance. Part of this success are the companies *3B Produktion* and *EVE Images*, as well as the illustrator Martin Haake with their production of image material, the Virtual Reality Studio by *INVR* and the subject group audio communication of the Technical University Berlin.

ERDF HAS AN IMPACT IN BERLIN

The state of Berlin is known for its creativity, creative urge and artistic diversity. The **European Union** is committed to **promote this wealth of ideas** via ERDF. One focus lies thereby on **innovation and sustainability**, so that innovative cooperation in Berlin's technology fields, that are relevant to economic growth, is promoted in particular. The funding instrument *PLATZ* (*platforms, laboratories, centres*) specifically addresses research facilities and higher education institutions, in particular in the technology fields that are relevant to economic growth. There, **specialists are trained** and **ideas are developed**, this is where Berlin's future lies. With the funds provided by ERDF, it is ensured that knowledge gained from research is transferred to enterprises – and thus the economy is becoming increasingly stronger.

In concrete terms, the ERDF is ensuring that ...

- new, enjoyable and informative formats and offers for the conveyance of culture can be developed.
- a broader and younger audience is inspired by MINT subjects.
- digital technologies are applied to a variety of purposes and therefore secure the future.
- Berlin remains the digital capital.



With VR, you find yourself right in the middle of the orchestra



Konzerthaus Berlin as a 3D model in augmented reality



The virtual quartet

FUNDING: CONTACT:

FUNDING PRIORITY 1
Infrastructure for science and research
(platforms, laboratories, centres –
higher education institutions, univers.
research and development)

FUNDING AMOUNT
€ 2,282,000, 50 % ERDF

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**THE GOVERNING MAYOR OF
BERLIN, SENATE CHANCELLERY**
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**HIGHER EDUCATION AND
RESEARCH**

Contact: Walter Szillat
E-mail:
Walter.Szillat@wissenschaft.berlin.de

**UNIVERSITY OF APPLIED SCIENCES
BERLIN (HTW)**

Contact: Prof. Jürgen Sieck
E-mail: J.Sieck@htw-berlin.de
Homepage: <https://inka.htw-berlin.de/en/>

KONZERTHAUS BERLIN

Gendarmenmarkt, 10117 Berlin
Contact: Elena Kountidou
E-Mail: e.kountidou@konzerthaus.de
Homepage: <https://www.konzerthaus.de/en/virtuelles-konzerthaus>
Blog: virtuelles-konzerthaus.de

