

PRESS RELEASE

Fraunhofer HHI successfully completes the project “Installation of VLC technology on the Island of Mainau”

The “VLC Mainau” project was launched in the spring of 2015 with the objective to convert an existing conference room on the Island of Mainau (Lake Constance) using Visible Light Communication (VLC) technology. Now the project has been successfully concluded by the Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, HHI and Mainau GmbH with the realization of a novel optical WiFi environment.

The conference room system was upgraded in several phases intended to offer insights about parameter optimization in view of practical applications. This VLC installation outside a laboratory environment is the first in Germany and one of the few field tests of this kind worldwide.

A first VLC-based system was installed in the conference room during the first project phase. Also known as LiFi, the VLC technology is a WiFi alternative that supports the wireless exchange of large data volumes. The VLC technology was then expanded in the second project phase, providing flexible access to the Internet for multiple users.

“This first VLC installation on the Island of Mainau was a very exciting project for us. We very much appreciate the constructive collaboration with Mainau GmbH and the financial support of the Baden-Württemberg Ministry of Environment. Today we are looking back on one year of continuous, error free operation of the installed system. Highly positive feedback from users shows that this technology will find a place in everyday life. The constructive comments are already being implemented into the further development of our systems today”, says Dr. Anagnostis Paraskevopoulos, Project Manager at Fraunhofer HHI.

Bettina Countess Bernadotte, Managing Director of Mainau GmbH, is supporting the research of reduced radiation mobile communication based on personal conviction. “We as the Island of Mainau are pleased that we were able to make a contribution to the further testing of the new technology, and we look forward to its subsequent development.”

“This is a groundbreaking pilot project for mobile data communication without the use of radio technology, and a starting point for establishing a new basic technology that can be used where radio technology is not appropriate for health or technical reasons. We are happy that we initiated and coordinated a successful project with partners from the fields of research, politics, and industry,” explain Dr. Andrea Leute and Dr. Stefan Zbornik of the Initiative BodenseeMobilfunk (Lake Constance Mobile Communications).

Environment and Energy Minister Franz Untersteller: “We like to support such trendsetting projects. VLC technology can help minimize exposure to wireless radio connections, and thereby supports the concept of prevention.”

The project is supported by the Baden-Württemberg Ministry of the Environment, Climate Protection and Energy Sector. The Initiative BodenseeMobilfunk came up with the idea for the project on Mainau Island and also coordinated the activities of the project participants.

The VLC technology

The demand for wireless communication networks within buildings will continue to increase in the coming years. Visible Light Communication offers an alternative, which uses LED-based light sources for data transmission purposes. Through the higher number of access points, a significant increase of the network capacity can be achieved while retaining the mobility which users want.

Visible Light Communication avoids all electromagnetic interferences with radio-based wireless networks and is by definition RF-free. Data rates of one gigabit per second (1 Gbit/s) and more can be achieved with conventional LEDs, thus even allowing for the flawless transmission of video data in HD and 4K quality. Just a few additional components are needed to turn a conventional LED light into a powerful optical WiFi transmitter. A special modulator turns the LED on and off very quickly, thus transmitting the digital information.

More information about the VLC technology for Mainau Island is available at:

www.hhi.fraunhofer.de/vlc-mainau

More information about the VLC technology is available at:

<http://www.hhi.fraunhofer.de/vlc>

The **Fraunhofer Heinrich Hertz Institute HHI** is a world leader in the development of mobile and fixed broadband communication networks and multimedia systems. From photonic components and systems through fiber optic sensor systems to video coding and transmission, the Fraunhofer HHI works together with its international partners from research and industry. www.hhi.fraunhofer.de

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Mainau Island is one of the most significant excursion destinations at Lake Constance. Lennart Bernadotte, born a Prince of Sweden, turned the summer residence of his great-grandfather Grand Duke Friedrich I of Baden into a flower and plant paradise. Thousands of tulips, hundreds of rhododendrons, scented roses, perennials and colourful dahlias bloom in the park and gardens. The visitors can also discover giant sequoias, the tropical Butterfly House, the Palm House and adventure playgrounds. www.mainau.de

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The **Initiative BodenseeMobilfunk** was established in 2007 by around 30 groups and organizations in all four states of the Lake Constance region. In addition to the current light communication project on Mainau Island, various other projects to minimize RF emissions have already been carried out in the past or are in the planning stages. The co-initiators are members of the Ärzteinitiative Allgäu-Bodensee-Oberschwaben, the Bürgerinitiative für humanen Mobilfunk in Constance and the Verein Strahlungsfreies Kreuzlingen. Press Contact: Günter Dolak, bi.humaner_mobilfunk@web.de, Phone: +49 7531 44 192.