

Press release  
31 October 2019



## Realfiction announces the positive outcome of a novelty search regarding the patent pending ECHO technology

**The Danish Patent and Trademark Office and Budde Schou, Patent Attorneys have carried out novelty searches as part of the patentability investigation of the invention behind the ECHO technology and conclude that Realfiction's directional pixel technology is novel with respect to the known techniques identified by the Danish Patent and Trademark Office Examiner and presents distinct advantages.**

It is common practice that the European patent authorities carry out a patentability investigation through research into existing technology that culminates in a written opinion regarding the patentability of the invention. To fulfill this purpose, databases from all over the world are accessed to search for existing and filed patents. The written opinion from the European patent authorities may be several years underway and is only issued upon granting or rejecting a patent. To obtain an earlier understanding of ECHO's position, Realfiction has requested novelty searches from both Budde Schou and the Danish Patent and Trademark Office. Neither Budde Schou nor the Danish Patent and Trademark Office found any known techniques which challenges the novelty of the ECHO technology.

Brian Jeppesen, patent attorney at Budde Schou states:

"I am happy to say that the search report indicates, that even though this is a field with a lot of activity from display manufacturers, Realfiction's directional pixel technology is novel with respect to the prior art identified by the examiner and presents distinct advantages. As is standard for patent applications, I have advised Realfiction not to publicly disclose any technical details, images or videos from the proof-of-concept configuration until the patent applications are publicized next year.

I have worked as a patent attorney specializing in display technology for more than 10 years. Directional pixels are a well-known technology being the fundamental element behind all types of glasses-free 3D dimensional displays such as holograms, light field displays and autostereoscopic displays.

Up until now, though, directional pixels have suffered a range of limitations which have prohibited wider market acceptance of glasses-free 3D displays for moving images.

The limitations have included bad performance quality such as low pixel resolution, less than full color reproduction, slow pixel response times, low angular resolution (leading to limited freedom of movement for observers), poor ghost-image suppression and also a lack of ability to scale to cost effective mass-manufacturing.

The technology proof-of-concept I have seen demonstrated at Realfiction is the first I have seen that holds the promise of overcoming all these limitations at the same time. It demonstrated a completely novel, nanotechnology-based, yet simple, circuit design for controlling pixel color value and angle of emitted light fast and precisely.

In my opinion, this technology holds the potential of cost-efficient mass production while maintaining the high angular precision and fast response times needed for a high quality, moving image 3D-experience.

As an additional benefit, the technology has the potential to save energy. Traditional tv sets use lots of energy on illuminating living rooms with the characteristic flickery blueish light we see through windows in residential areas at nighttime. They are essentially very inefficient, energy consuming, flickery lamps. Realfiction's technology is capable of emitting light only towards eyes of people in the room, hence has the potential to save significant amounts of energy."

#### **Clas Dyrholm, CEO of Realfiction comments**

"I am pleased about the positive conclusion from the novelty search. Although this does not yet secure that the patent will be granted, it is a significant indication that we have high chances of securing Realfiction's rights to the ECHO technology that will allow us to not only change the world of 3D, but also to make a great contribution to the environment by developing the power reduction technology that can reduce carbon emissions".

#### **Important disclaimer**

Although Realfiction and its Board of Directors fully support the information and statements in this press release with great excitement, and while they also acknowledge the apparent groundbreaking potential of the ECHO technology, it cannot be guaranteed that a) the ECHO technology will indeed be included in commercial products, b) the patents pending will in fact be granted, c) the ECHO technology will obtain and/or maintain any future leadership position vis-à-vis competing technologies, existing or invented in the future and d) the future power reduction savings will materialize.

#### **For more information about Realfiction Holding AB, please contact:**

Clas Dyrholm, founder and CEO

Telephone: +45 25 22 32 81

Email: [clas@realfiction.com](mailto:clas@realfiction.com)

[www.realfiction.com](http://www.realfiction.com)

#### **Certified Adviser**

Mangold Fondkommission AB is the company's Certified Adviser and can be contacted via [ca@mangold.se](mailto:ca@mangold.se) or +46 8 503 015 50.

*This information is information that Realfiction Holding AB is obliged to make public pursuant to the EU Market Abuse Regulation. The information was submitted for publication, through the agency of the contact person set out above, at 11.00 CET on 31 October 2019.*

#### **About Budde Schou, Patent Attorneys and patent attorney Brian Jeppesen**

Budde Schou is one of Scandinavia's oldest full-service firms of IP Attorneys. Budde Schou holds extensive expertise within all aspects of IP and provide IP advice and consultancy services to many national and international clients. Patent attorney Brian Jeppesen is a European Patent Attorney with a Master of Science degree in engineering from the Technical University of Denmark and a Master of Science degree in finance from Copenhagen Business School. Brian Jeppesen's technical expertise is within mechanical and electronic engineering, especially hearing aids, antenna design, signal processing and algorithms, software, electromagnetism, wireless systems and electro optical systems (such as displays). Brian Jeppesen has been employed within the IP industry since 2005 and is a Member of the Examination Committee for the European Patent Office.

#### **About the ECHO technology**

Realfiction has previously announced the completion of its Proof of Concept for its patent pending ECHO technology, and a grant from Innovation Fund Denmark to support the development of a beta-version. The

vision of the ECHO technology is the dream of truly changing the world of 3D. ECHO is a scalable display technology that makes it possible and cost-effective to present high quality 3D in open air, without the use of glasses or other lenses and with look-around capability for groups of people.

To further explain the directional pixel technology, a video illustration can be viewed on the Realfiction website [here](#).

Realfiction estimates that the ECHO technology can reduce the power consumption of displays of the average type televisions by close to 80%. The estimated reduction adds up to 80 watt per hour resulting in huge savings of approximately USD 7.4bN, 1.34% of the electricity production equivalent of 56 TWh of electricity and 25 million tons of CO2 only in the United States. As a result, ECHO has the potential to significantly reduce the yearly household consumption of energy, thus adding to lower carbon emissions on a global scale and USD savings.

#### **About Realfiction Holding AB**

Founded in Denmark in 2008, Realfiction is a leading innovator and provider of Mixed Reality solutions and services, a market estimated to reach USD 80 billion by 2025. Realfiction continues to invent technologies within Mixed Reality, with an intention to disrupt the industry by pursuing the vision of converting science fiction into real fiction. Realfiction Holding AB's share is publicly traded on Nasdaq Stockholm First North under the symbol "REALFI". The share's ISIN code is SE0009920994.