

World's First 8K Augmented Reality Device Introduced in MWC 2019

LetinAR is returning to Mobile World Congress (MWC) on February 25-28, 2019, in Barcelona, Spain. The booth, located in CS80 in Wearable Pavilion, will showcase the progress of the most advanced "Pin Mirror (PinMR™)" Augmented Reality (AR) optical solutions.

Now in its second year, LetinAR will arrive at Barcelona with the most advanced "Pin Mirror (PinMR™)" Augmented Reality (AR) optical solutions. As a pioneer in the AR industry, LetinAR has implemented the world's first 8K super-high resolution AR solution while others only stick around 1080p resolution.

Visitors will be able to explore three different zones focused on the 'World's First 8K AR Device', 'Truly Wearable Smartglasses' and 'The most advanced PinMR™ AR Optical Solution,' which will provide an opportunity to see the latest prototypes that are transforming the AR industry. With LetinAR 8K (4K per each eye) AR solution, more immersive AR experience can be realized. The solution can express up to 120 degrees of Field of View (FoV) diagonally which covers most of the human vision.

Moreover, LetinAR will introduce its first working wearable smartglasses prototype. Visitors will be able to try "Truly Wearable" Smartglasses. LetinAR PinMR™ smart glasses shows a clear image without inducing dizziness while more accurately expressing colors – an edge over diffraction-based or refraction-based smart glasses from competitors. As smart glasses are considered to be a candidate for future daily-life tech gadgets, LetinAR will demonstrate how AR will change people's daily lives. For example, LetinAR smart glasses tethered with smartphones demonstrates navigation, recipes, and other use cases.

LetinAR has also collaborated with Fraunhofer FEP - a German Specialist for the customized development of OLED microdisplays for wearables. Fraunhofer FEP and LetinAR will present together with the future of AR eyewear technology by their first joint demonstrator of the PinMR™ lens sets with an ultra-low-power OLED microdisplay.

Dr. Uwe Vogel, Division Director Microdisplays and Sensors at Fraunhofer FEP explains the advantages: "We are very pleased to introduce the world's first demonstrator with the promising PinMR™ optics lens set of LetinAR together with our ultra-low power microdisplays at MWC in Barcelona. The co-operation shows what our know-how in combination with the latest technology of LetinAR's optical specialists can bring about. This fusion of technologies will hopefully soon lead to extremely small, lightweight and electro-optically efficient devices for data glasses and other wearables, enabling significantly improved battery life and reduced recharge cycles, thus always-on capability such as today's smartphones, which they can wirelessly connect to."

Jaehyeok Kim, CEO at LetinAR says, "I'm glad to introduce the world's first 8K AR solution in Mobile World Congress", and "LetinAR PinMR™ AR optical solution will enable fully immersive AR experience."



With LetinAR PinMR™ Lens, smart glasses manufacturers can build smart glasses that resemble conventional glasses. The simple structure of PinMR™ Lens module can facilitate mass production. LetinAR aims to break down the technical barriers that have long hindered the commercialization of AR glasses, with its trademarked PinMR™.

To find more about the LetinAR or demonstrations at the Mobile World Congress, visit <https://letin.com> or e-mail sales@letin.com.

Ends: 460 words

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LetinAR Introduction

LetinAR PinMR™, a Totally New AR optical solution

January 2019

LetinAR Develops a New Optical Solution for AR Glasses

LetinAR is a startup that develops an optical solution for Augmented Reality (AR) Glasses.

Current smart glasses manufacturers use traditional optical systems such as Half-mirror, Diffractive Optical Elements (DOEs), and waveguides to build the devices. However, Under-par performance of those optical systems has hardly satisfied users and experts. The bulky body, narrow Field of View (FoV), complicated manufacturing process, and inaccurate color expression have long been a stumbling block for successful commercialization of AR smart glasses.

LetinAR PinMR™ Technology

LetinAR's PinMR™ lens is set to innovate AR smart glasses. LetinAR has applied the so-called "Pinhole Effect" to tiny mirrors and embedded them with eyeglass lenses. Respective PinMR™ reflects the light from a microdisplay and guides the light into human pupils. Users may view the virtual image from the microdisplay as well as the image from the real world at ease. Human eyes cannot detect the mirrors, which are smaller than pupils. Only the virtual image formed by the light reflected by those mirrors is visible.

With LetinAR PinMR™ Lens, smart glasses manufacturers can build smart glasses that resemble conventional glasses. The simple structure of PinMR™ Lens module can facilitate mass production. PinMR™ Lens shows wider virtual screen than the currently available optical systems while more accurately expressing colors – an edge over diffraction-based or refraction-based systems from competitors. PinMR™ Lens can also show a clear image without inducing dizziness because it is able to extend the Depth of Field (DoF) multiple times. LetinAR aims to break down the technical barriers that have long hindered the commercialization of AR glasses, with its trademarked PinMR™.

Business Model of LetinAR

LetinAR designs, manufactures, and supplies PinMR™ by on-demand basis. LetinAR plans to supply PinMR™ Lens as a complete module, which consists of PinMR™ lens and a microdisplay from external partners. LetinAR will begin providing PinMR™ Lens samples in 2019, making it possible for smart glasses manufacturers to evaluate the potential of using PinMR™ lens for their own products.

Factsheet

Company Est.	Oct. 2016
Founders	Jaehyeok Kim, Jeonghun Ha
Employees	14
Industry	Electrical/Electronic Manufacturing
Specialties	Augmented Reality, Optical Design
Value proposition	A Totally New AR Optical System to replace traditional optical systems
Business Model	Design, Manufacturing, Supply of PinMR™ Lens Module
Main Product	PinMR™ Lens Module
Type	Privately Held
HQ	Seoul
Round	Series A
Total Capital Raised	6.1M USD
Investors	Kakao Ventures, Naver Corporation, KB Investment, DSC Investment, Platinum Tech Investment, Korea Asset Investment Securities

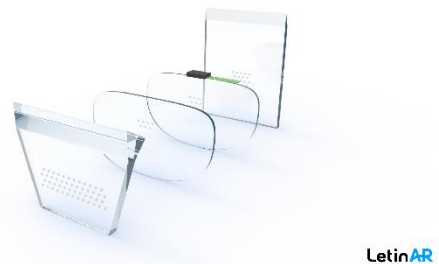
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PinMR™ Lens Module



Full Line-up of PinMR™ Lens Module



LetinAR PinMR™ Smartglasses

Link to Video : <https://youtu.be/d81yQtONMn8>

Website : <https://letinar.com>