

## 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 eyeglasses 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

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



**PinMR™ Lens Module**



**Full Line-up of PinMR™ Lens Module**



**LetinAR PinMR™ Smartglasses**

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

**Website :** <https://letinar.com>

## Contact

Jiwon Rho (PR Manager)

[jwrho@letinar.com](mailto:jwrho@letinar.com) +82(10)2378-1248

## Evaluation / Review

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