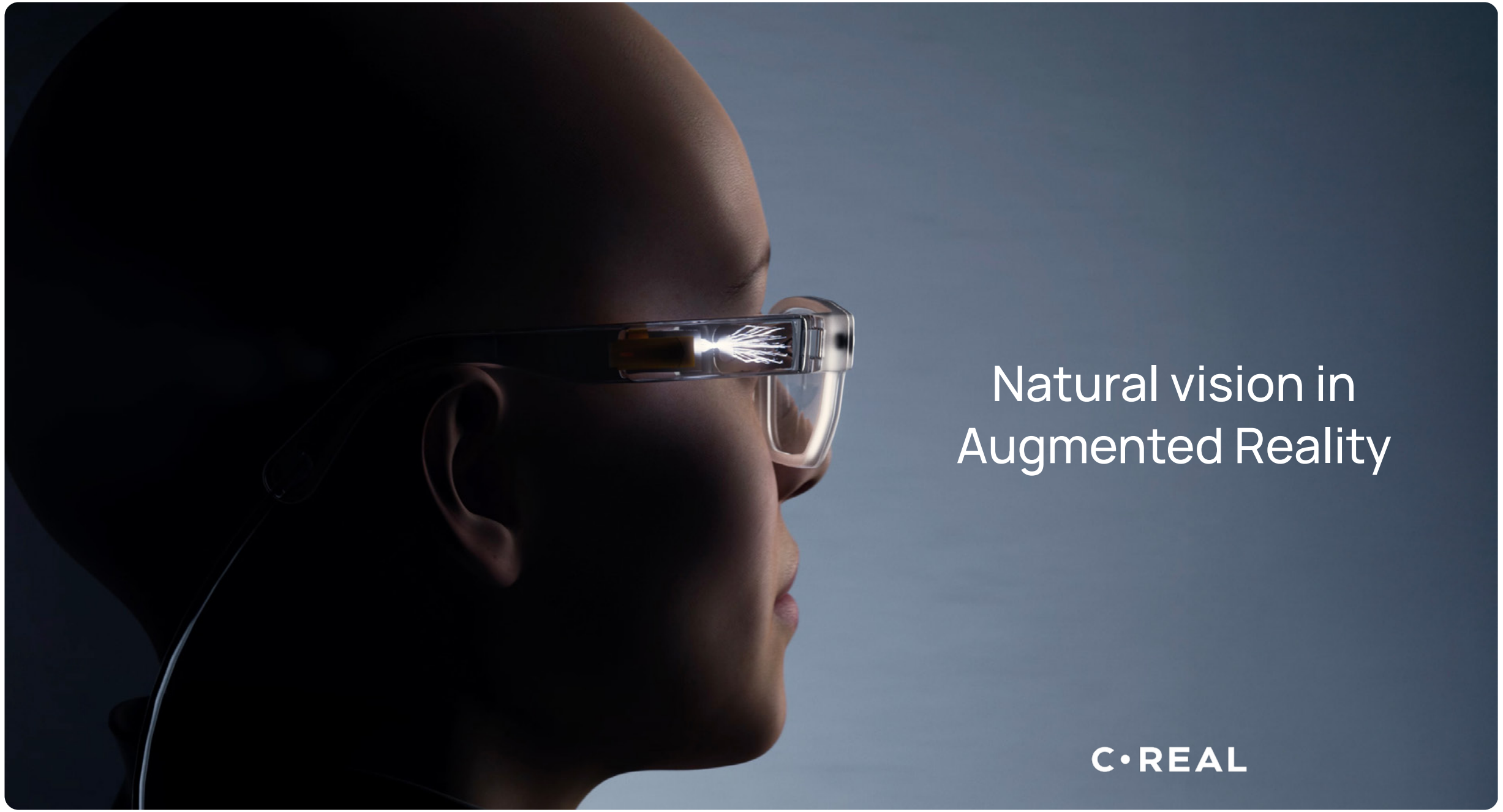
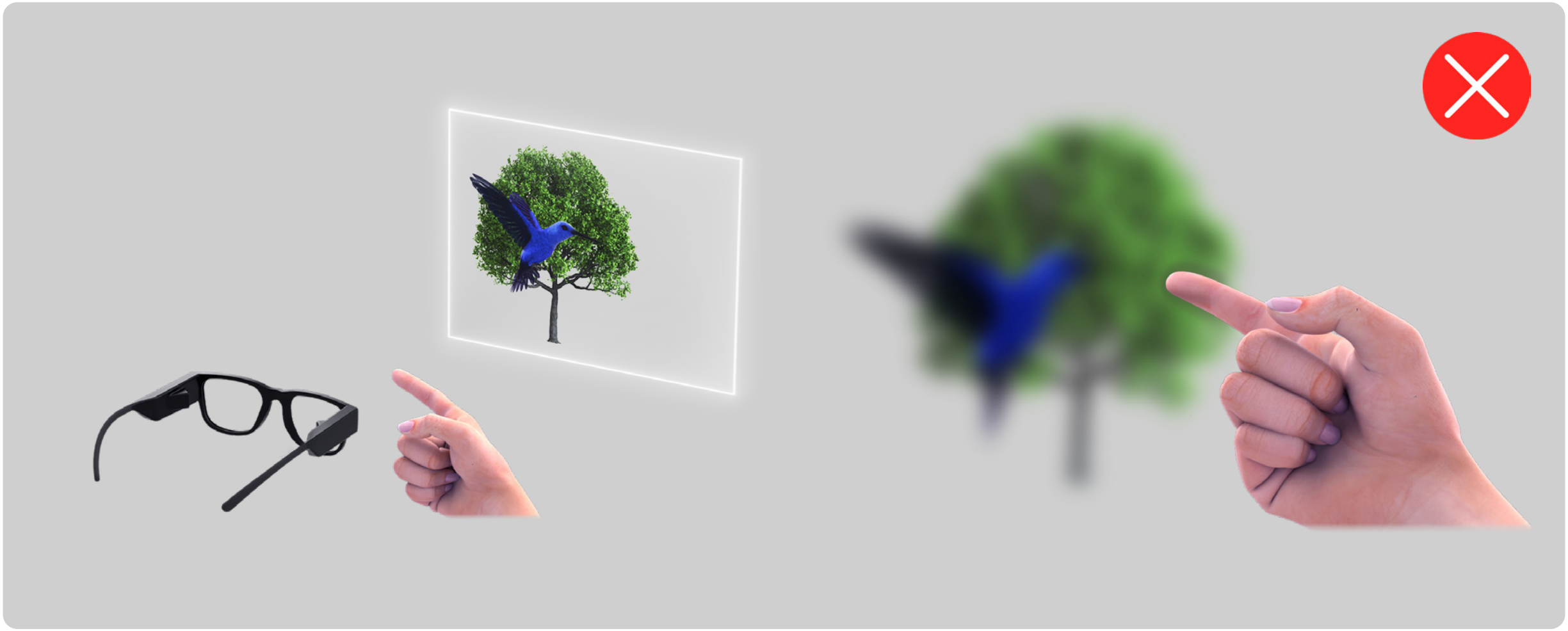

Natural vision in
Augmented Reality
C•REAL

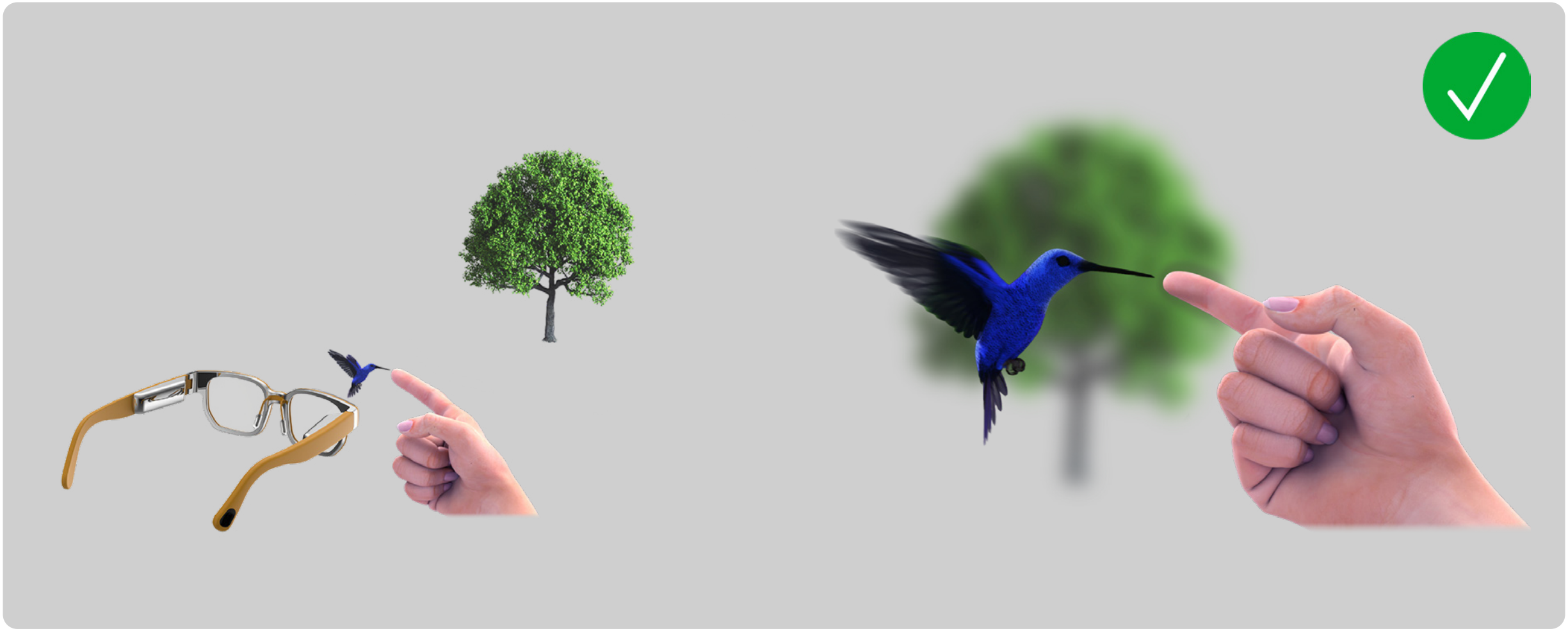
The industry's first light field display allowing continuous focal depth, opening a world of natural vision into Augmented Reality. Light field is the key ingredient to enable widespread use of AR glasses in everything from cooking to neurosurgery.

Until today, AR displays ignore the natural focus mechanism of our eyes.



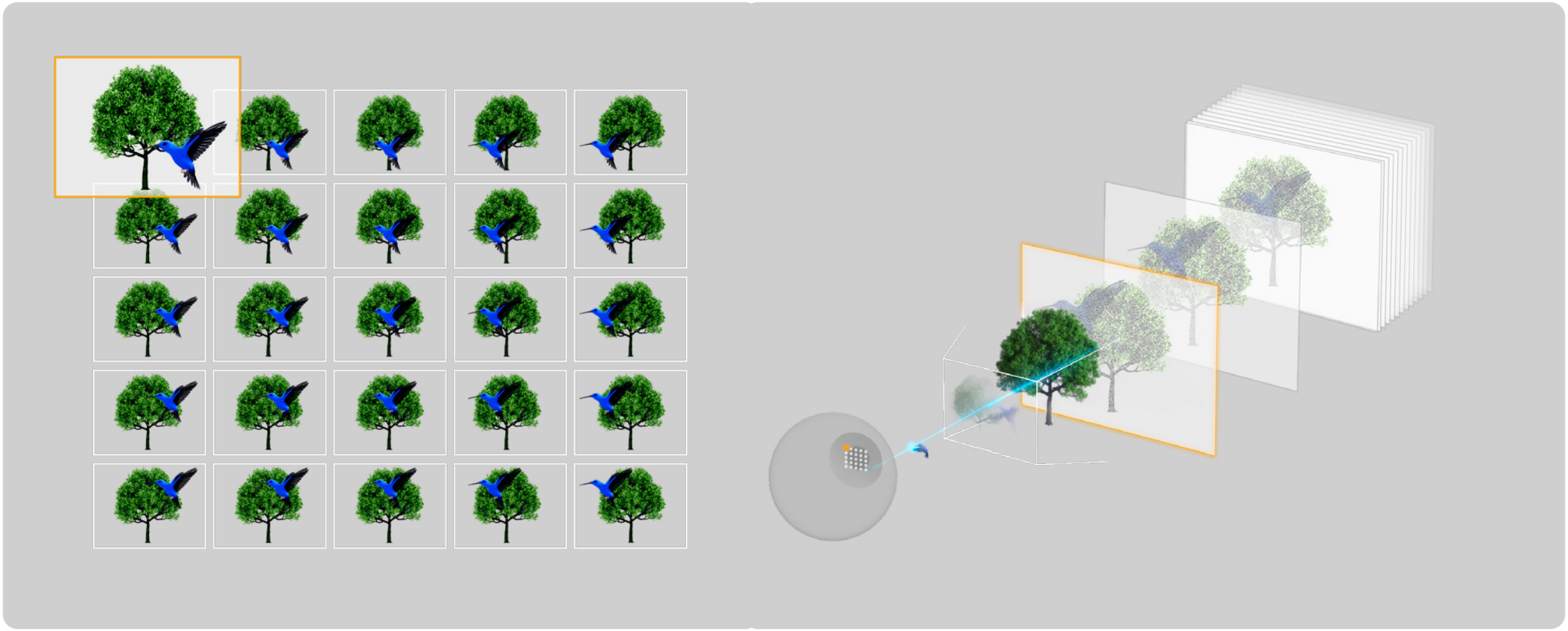
Today's AR displays project a flat image at a fixed focal distance, preventing digital content to blend with the real world.

- Visual conflict within the personal space
- Eye-strain and nausea in < 20 min
- Potential source of vision damage



CREAL's light field display projects digital content with real-world depth cues, enbaling seamless blending with the real world.

- Lifelike vision at any distance
- Prolonged use without conflicts
- Natural for human vision



CREAL's light field display explainer

CREAL's light field display recreates the light rays for each viewpoint of a digital scene. By projecting these perspectives in sequence, it generates a digital scene that remains always-in-focus, just like the real world is.

Images shot through the lens

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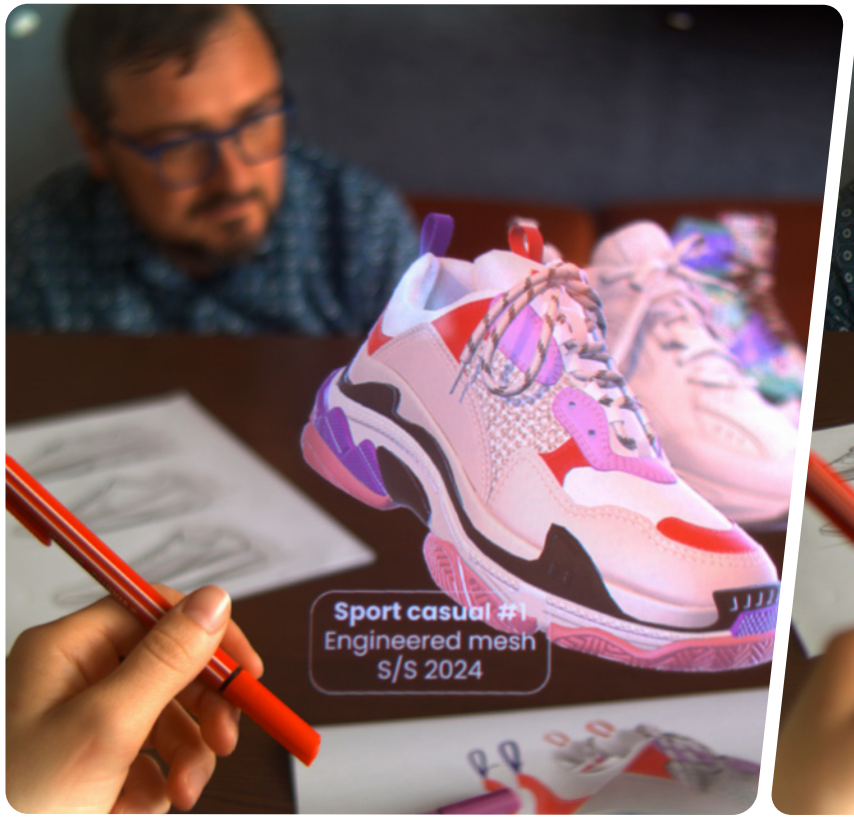


Eye focus
0.30 m

Eye focus
0.5 m

Eye focus
1.2 m


Focus: 0.3 m
Sport casual #1
Engineered mesh
S/S 2024


Focus: 1.2 m

Key benefits

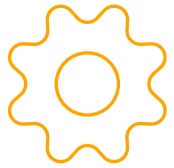
Real depth
offers prolonged use without visual conflict, eye-strain and nausea.

Prescription compatibility
offers users a tailor-made experience matching their visual needs.

Transparent lenses
allows natural eye contact, without glow and reduced rainbow effect.

High brightness at low power
enables comfortable experience in any environment.

Efficient light field generation
allows low computing requirements.



Mature technology
enables scalable and low-cost manufacturing processes.

CREAL's unique light field display ensure that AR glasses' primary function —vision enhancement— remains uncompromised, before they start augmenting the world with digital content.

Technical specifications

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Per eye	
Angular resolution (at infinity)	40 ppd
Modulator resolution	1 Mpix (1:1 ratio)
Depth resolution	Continuous[1]
FoV (diagonal)	36°
Effective eyebox (exit pupil)	13 mm (6 mm)
Eye relief	20 ± 3 mm
Modulator frame rate	160 Hz
Sub-frame rate	6.5 kHz
Colors	2 millions

Brightness	2000 nits
Contrast	1000/1
Combiner type	Holographic, prescription compatible
Transparency	91%
Virtual image correction	Sphere, cylinder axis
Power consumption	
- Light source	8 mW @500 nits (+driver)
- Modulator	90 mW (+driver)

[1] Resolution is finite, however much higher than an eye can resolve.

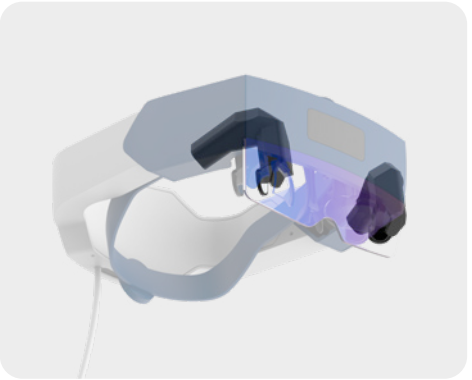
Looking ahead

C•REAL

2019

2020

2021



2025

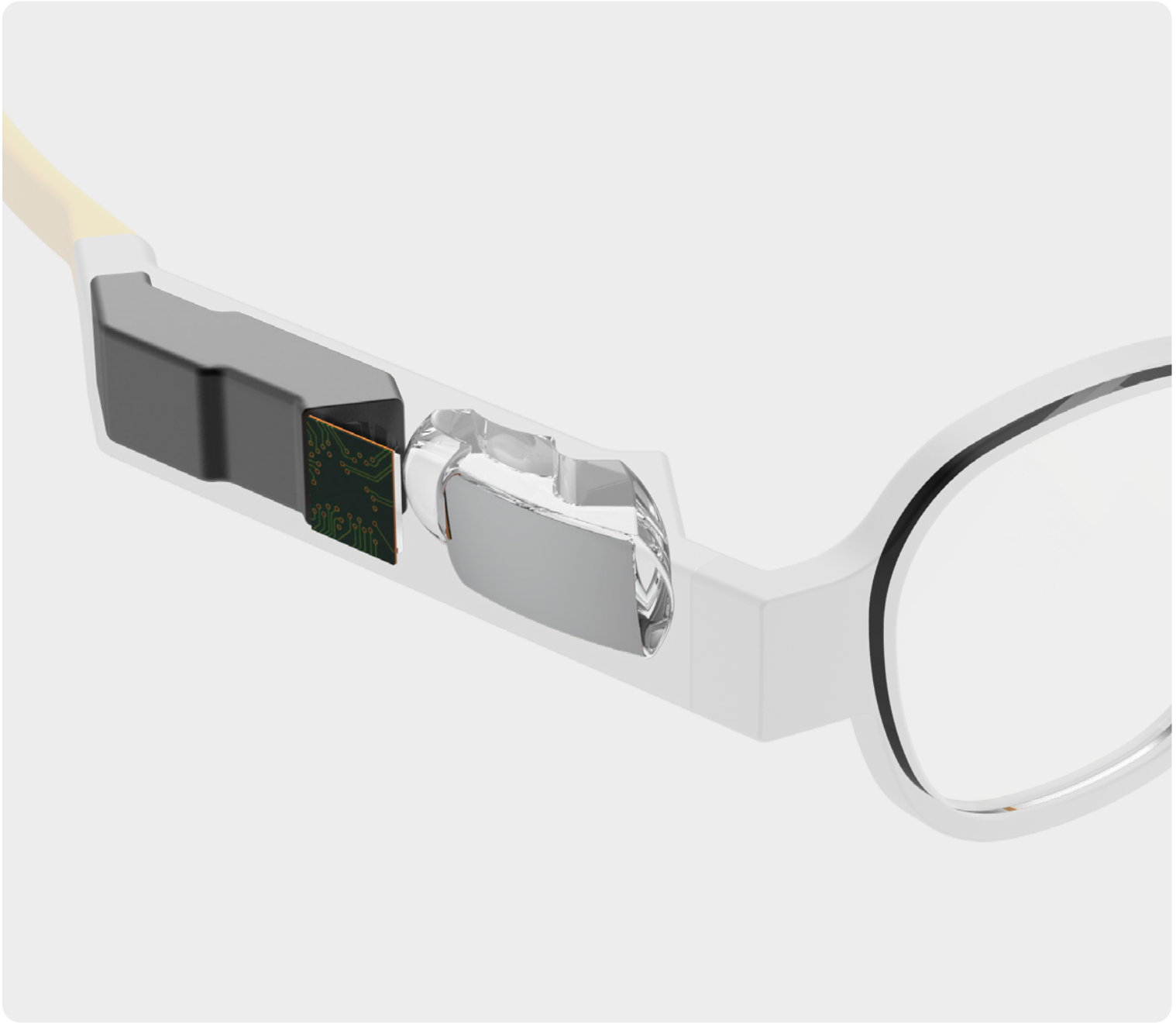
2026+

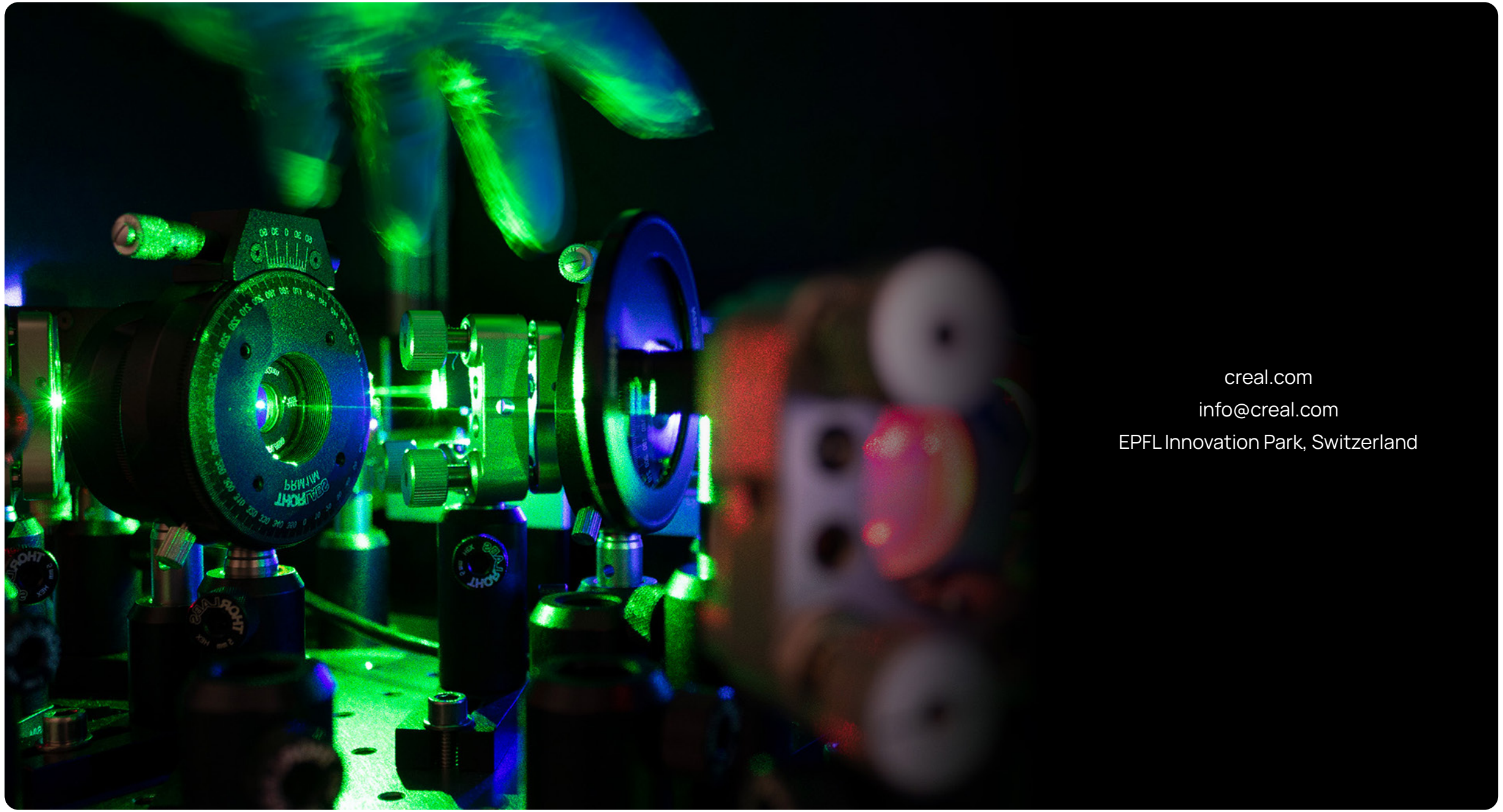
Our offer

Our complete light field optical engine solution is available for testing and evaluation today.

By allowing comfortable extended interaction with virtual objects at any distance, CREAL's light field technology can unlock the full potential of next-generation AR glasses.

For further information on CREAL's AR technology display, engineering and support integration and more, please contact sales@creal.com.





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