CREAL

VR IN FOCUS

Per eye	Today (demo available)	Early 2023 (target specs)
Depth resolution (planes)	Unlimited*	Unlimited*
SLM resolution	Light-field: 1 Mpix Flat: 1600x1440 px	Light-field: 1 Mpix Flat: 1600x1440 px
FoV	FOV 100° (Light-field 30°)	FOV > 100° (Light-field 30°)
Eyebox	8 mm	> 8 mm
Colors	5-10 M	5-10 M
GPU load	8K (equivalent)	FHD (equivalent)
Frame rate	240 Hz	up to 270 Hz
Sub-frame rate	5.8 kHz	up to 6.5 kHz
6 DoF tracking	Intel RealSense T265	custom
Eye-tracking**	Pupil Labs	custom

* Resolution is finite, however much higher than an eye can resolve

** Eye-tracking is not required for the essential function

	Real light-field	No eye-tracking required	Depth resolution (planes)	Spatial resolution	Complexity (HW/SW)	Image quality	Eye box
CREAL	✔	✔	Unlimited*	> 1 Mpix	˅	^	—
Holography	✔	✔	Unlimited*	> 1 Mpix	^	—	—
Microlens array	✔	✔	> 10	< 100 Kpix	—	˅	—
Multiple depth planes	✘	—	2-4	> 1 Mpix	^	^	^
Varifocal elements	✘	—	> 100	> 1 Mpix	˅	^	^

Focus

0.3 M

Focus

3 M
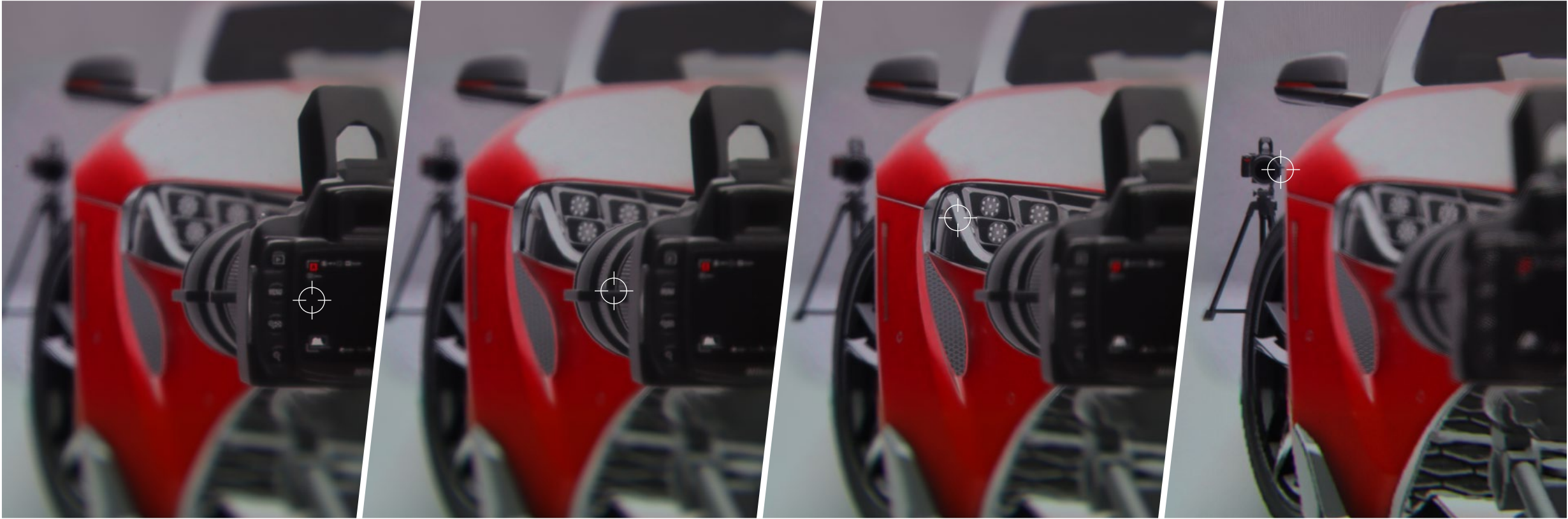
Focus

0.2 M

Focus

0.3 M

Focus

0.6 M

Focus

3 M

Standard display

**Standard display doesn't allow
focus up-close (it is a flat image)**

Light-field display

**CREAL's light-field display allows natural
eye focus within arm's reach distance**

1600x1440 px in 100°FOV ≈ 20 px/°

Additional 1280 x1024 px in 30°FOV ≈ 40 px/° foveated light-field

Standard display

Even when in focus, standard display provides limited resolution only at 1.4 m

Light-field display

CREAL's light-field provides high-resolution image at any focal distance

Q1 2020

Table-top demo

Q1 2021

VR evaluation kit
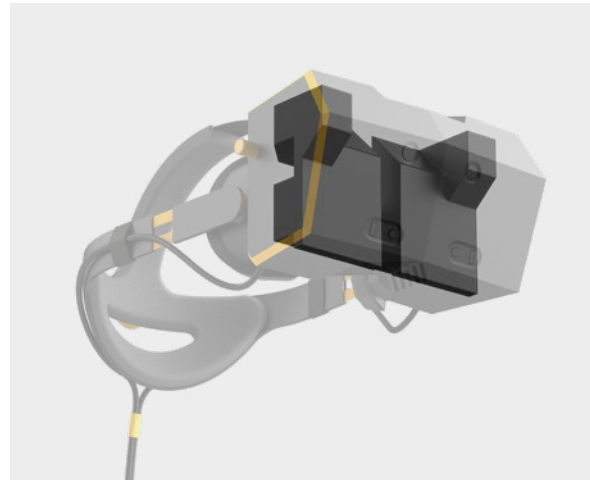
Q1 2022

VR evaluation kit

Q1 2023

Compact VR headset
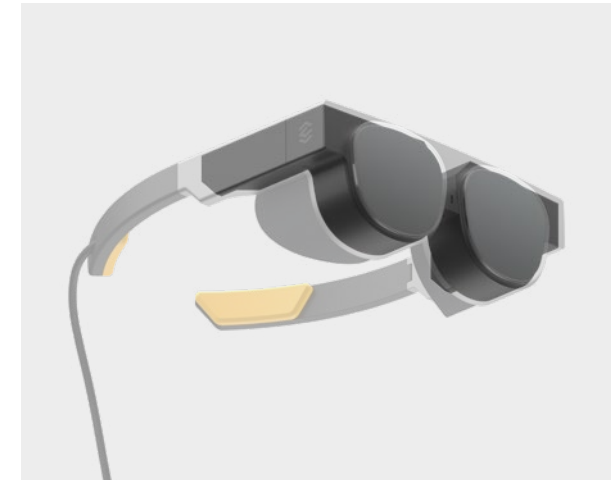evaluation kit

Q1 2022

Evaluation kit available

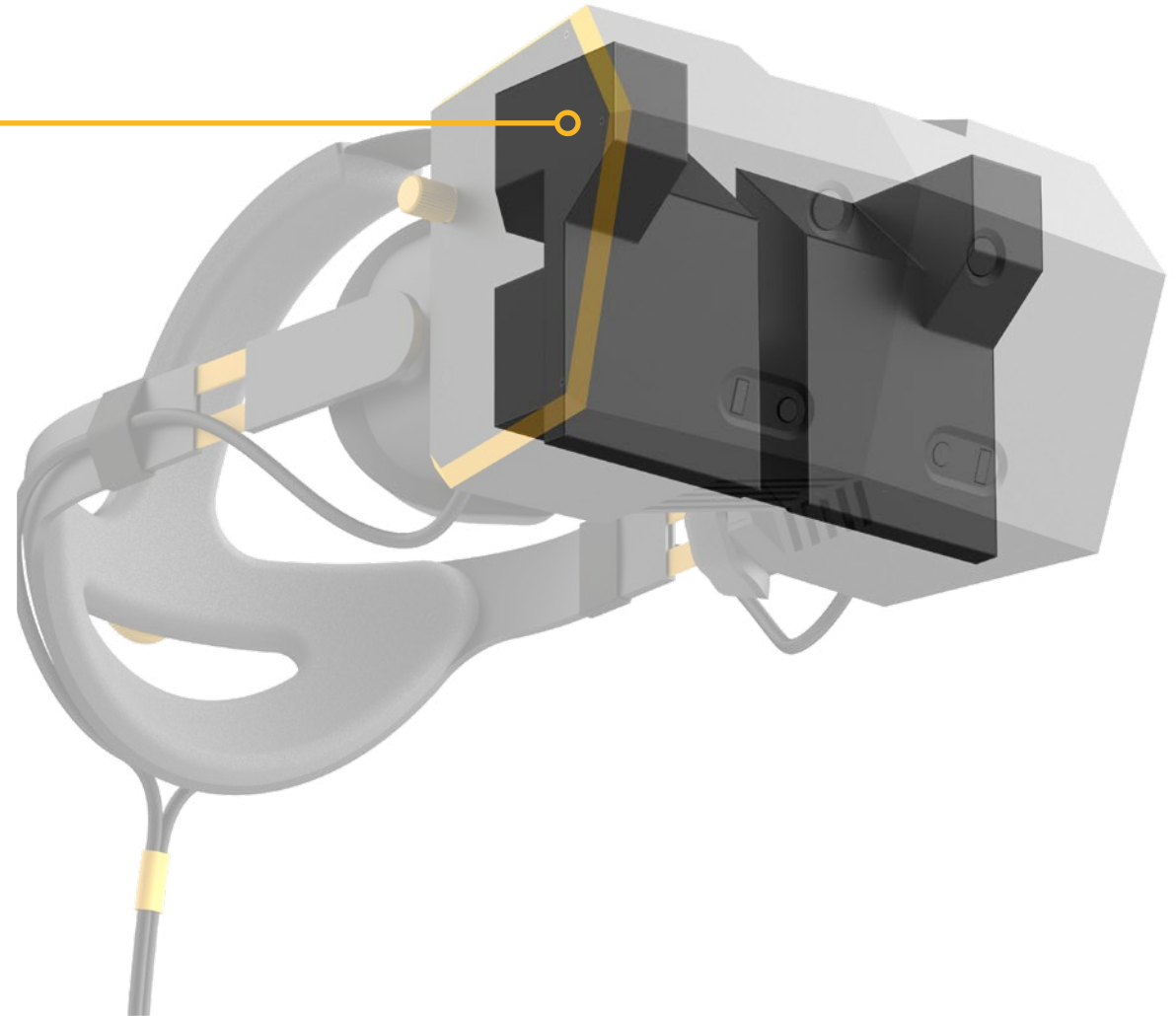Light-field optical engine available for integration
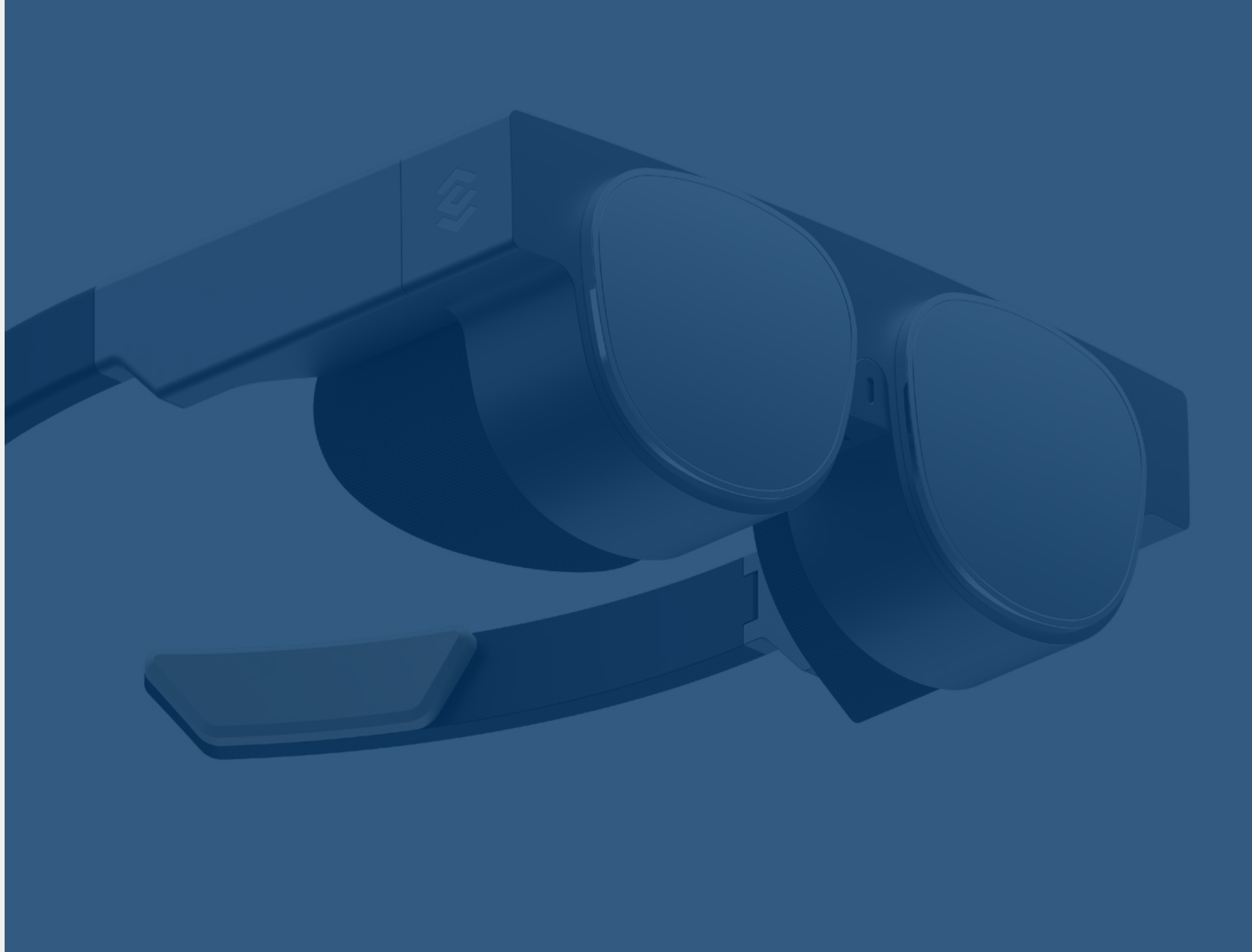
Q1 2023

+ Complete light-field optical engine

+ Foveated light-field "addon" to integrate with your existing back screen

Light-field can help you to build **the ultimate VR headset where the virtual looks just like real.**

Please ask us at **sales@creal.com** for:

1 VR technology evaluation kits

2 Engineering and integration support