

VRGINEERS JUST MADE VR EVEN MORE REAL - TO SHOWCASE UPGRADED XTAL VR HEADSET FOR PROS AT CES 2019

XTAL upgrade features custom-made lenses with wider FOV and less distortion

PRAGUE, Dec 11th, 2018 - Last summer, VRgineers rocked the VR industry when it released XTAL, the first headset with specs advanced enough for aerospace prototyping and military simulations - including a pair of 2.5K displays for a total of 5K.

Now, after months of additional development VRgineers is preparing to showcase an even more advanced version of XTAL, incorporating proprietary non-fresnel lenses that deliver the clearest, most immersive VR experience to date. Plus, unlike competing solutions which only use a subset of the display, XTAL utilizes every pixel of the display to improve panoramic immersion.

“XTAL’s new non-fresnel lenses will deliver a wider field of view and binocular overlap, a bigger sweet spot, and much less distortion compared to the existing model,” explained Marek Polcak, CEO & Co-Founder of VRgineers. “This is critically important to our customers. When prototyping a new automobile design, for instance, they’ll be able to see more of the vehicle at once, and come closer than ever to a true-to-life image. We’ve getting ever closer to our goal - which is to make virtual reality indistinguishable from reality itself.”

Members of the media may experience the new XTAL first-hand at [Showstoppers](#) at CES 2019. Customers may purchase the new XTAL today, while those who have purchased the previous XTAL model may upgrade their device free of charge via a lens-swap if they participate in XTAL’s professional support package.



The new VRgineers lenses feature:

- **Reduced Distortion** — The clearest, most immersive VR image to date.
- **180° Maximum Diagonal FOV** — A significant upgrade over the maximum 170 degree diagonal FOV in the current model

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- **Enlarged Super-focused Area** — 50 percent larger picture area, which is entirely focused.
- **Larger Eye Box** — A 20 percent increase in eye box size reduces the need for additional adjustment between different users.

More about XTAL

Unlike typical VR headsets designed for gaming or entertainment, XTAL was designed meticulously around the needs of professional designers and engineers who require superior image quality and accuracy, wide field-of-view, easy integration, and data security. Whether users want to virtually design, create, prototype, teach or train, XTAL offers the visual quality needed for even the most demanding tasks.

VRgineers goes even further by introducing a set of breakthrough technologies with XTAL. It is the only headset in the world to feature AutoEye, the company's proprietary technology that automatically aligns lens positions with the user's eyes. The setting of the interpupillary distance (IPD) is often neglected, though crucial for optimal image quality. AutoEye makes sure the IPD is always correct and allows an easy switching of headset users.

XTAL is the world's first headset on the market to feature an embedded Leap Motion sensor. The highly accurate 180x180° hand-tracking gives the user a seamless and intuitive way of interacting with a VR scene with bare hands.

Finally, the headset enables issuing voice commands in VR through its built-in microphone coupled with voice recognition software to further free the user to focus on what is he or she doing.

VRgineers XTAL was developed in Prague with the challenging task of combining several contradicting requirements: keeping the best-in-class image quality with 5K resolution, 170° field-of-view, and patented non-Fresnel lenses; embedding new technology; and reducing the headset's size and weight. XTAL's design achieves this, bringing the weight down 12% from VRgineers' previous headset, the VRHero. The slimmer, more compact body, and artificial leather face cushion makes XTAL comfortable to wear even for prolonged time periods.

VRgineers' focus on bringing a full hardware-software stack for professional VR users and industrial use cases has further expanded through cooperation with specialized software companies such as Autodesk, Dassault Systèmes, and ESI on integrating XTAL into their software suites. Similarly, for VR setups capable of handling highly complex VR projects, XTAL is optimized for NVIDIA Quadro professional GPUs.

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“VR for professional use is broadly gaining traction,” says David Weinstein, Director of Enterprise VR at NVIDIA. “When creating a product prototype or architectural plan you really need to see the details in your design, and that precision and clarity really comes through in the VRgineers headset’s high-resolution display combined with NVIDIA Quadro professional GPUs.”

“For ŠKODA AUTO engineers, it is crucial in the design revision process to display the digital model of the car in the highest true-to-life image quality possible and a corresponding field-of-view. For that purpose, the VRgineers headset is the only choice on the market achieving such quality standards,” says Leos Cerveny, Virtual Reality and Digital Factory Coordinator in ŠKODA AUTO, a part of Volkswagen Group.

Before XTAL was designed, VRgineers tested the best lenses on the market and none could provide the optimal image quality needed for the XTAL headset’s high-resolution displays. VRgineers thus created a joint venture VR Optics Inc., with an Israeli consortium specializing in the development and manufacturing of VR and AR optics. The result is mastery of the process of thick lens injection molding and the creation of the most advanced lenses ever. Such advanced technology is currently exclusive to VRgineers and is now standard on all XTAL headsets.

Retail availability is coming

VRgineers are now planning to utilize the know-how they gained developing retail VR lenses. This high-end technology can be scaled up for more affordable end-customer-facing VR headsets as well. The ultimate goal is to provide the entire VR community improved imaging quality for existing systems, increasing the level of immersion and utilizing the entire available display area.

For more information about the new lenses and the high-resolution XTAL headset, visit <https://vrgineers.com/xtal/>.

About VRgineers

VRgineers, Inc. is a virtual reality engineering company developing and manufacturing cutting-edge enterprise-grade VR gear for professionals. Its new generation high-resolution VR headset platform is used by clients in the automotive, architecture, industrial design, and training sectors, enabling them to transform their work using VR technology. The company is headquartered in Prague with a U.S. office in Los Angeles.

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