

Varjo Launches its XR-3 and VR-3 Headsets to Bring the Next Generation of Immersive Technology to Every Workplace

The latest professional-grade devices deliver twice the performance with enhanced human-eye resolution, wide field of view, and XR-3 mixed reality depth awareness & inside-out tracking for true immersion in enterprise applications; New price point to further accelerate professional adoption

Helsinki, Finland – December 1, 2020 – [Varjo™](#), the leader in high-performance XR/VR hardware and software, today announced the launch of its next generation human-eye resolution XR/VR headsets – the [XR-3](#) and [VR-3](#). These two new professional-grade headsets continue Varjo's 'Resolution Revolution' as the latest devices in a product line committed to delivering unsurpassed visual fidelity across industries where absolute precision is necessary, including training and simulation, design, engineering, medical and research.

As demand for virtual and mixed reality use cases continues to rise, particularly as much of the world continues to work remotely, the latest offerings from Varjo deliver the cutting-edge tools needed to scale XR/VR adoption within every industry. Featuring human-eye resolution, a 115° field of view, integrated eye and hand tracking, XR-3 inside-out tracking and pixel perfect mixed reality depth awareness, professional users can perform at their highest level in a fully immersive environment.

“Our team has been working non-stop throughout 2020 to further push the envelope of what is possible in XR and VR. The new XR-3 and VR-3 are the most advanced, zero-compromise devices on the market and suitable for any professional workflow,” said **Urho Konttori**, co-founder and Chief Innovation Officer of Varjo. “We are especially excited by the introduction of depth awareness in the XR-3 through combined LiDAR and RGB video, enabling the most realistic mixed reality experiences ever seen. With our highest-performance XR, Varjo is setting the new standard for professional immersive computing and paving the way for a collaborative, cloud-enabled mixed reality workplace.”

The XR-3 and VR-3 unlock new professional applications and make photorealistic virtual and mixed reality more accessible than ever. For example, the new headsets provide pilots and flight crews with an unmatched level of realism that replicates the exact feeling and conditions needed for rigorous training and simulation. Designers and creatives can experience perfect 3D visualizations – meaning textures, reflections, colors, text, curvature and angles in shapes can be seen in stunning clarity with the widest color gamut of any headset. Lastly, first responders or surgical teams can train together in an immersive reality, improving ways of working, communication and readiness for any medical scenario.

Key features of both the XR-3 and VR-3 include:

- **Industry's highest resolution in a 115° field of view.** This is possible through Varjo's full frame Bionic Display™ with double the human-eye resolution area (at over 70 pixels per degree) compared to previous generations. The headsets now also support ultra-high resolution across the full frame, as well as color accuracy that mirrors the real world.
- **Twice the performance** for enhanced levels of realism and visual clarity. With a refresh rate of 90 Hz, the XR-3 and VR-3 also have the world's fastest and most accurate eye tracking integrated in XR/VR headsets at up to 200 Hz, giving users optimized visual fidelity through foveated rendering. Both devices also feature integrated Ultraleap™ hand tracking for natural interactions.
- **Improved comfort and usability** with 3-point precision fit headband, 40% lighter weight, active cooling, and ultra-wide optical design removing eye strain and simulator sickness
- **Complete software compatibility** with Unity™, Unreal Engine™, OpenXR 1.0 (in early 2021) and hundreds of industrial 3D engines and applications, including Autodesk VRED™, Lockheed Martin Prepar3d™, VBS BlueIG™ and FlightSafety Vital™

Key features specific to the XR-3 include:

- **The industry's first depth awareness with LiDAR and stereo RGB video pass-through** to deliver seamless merging of real and virtual for perfect occlusions and full 3D world reconstruction
- **Inside-out tracking** enables users to determine the precise position of the XR-3 within the environment. This vastly improves tracking accuracy and removes the need for SteamVR™ base stations

With the launch of VR-3 and XR-3, Varjo also modernizes its software offering by introducing Varjo Subscriptions to replace the previous software and support services. Professional customers can now more easily and flexibly manage and acquire Varjo software from a dedicated portal.

The Varjo XR-3 is available for enterprise purchase for \$5,495 (USD and Euros) together with Varjo Subscription, which starts at \$1,495 (USD and Euros) for a required one-year base subscription. The Varjo VR-3 can be purchased for \$3,195 (USD and Euros) along with a one-year subscription starting at \$795. With a new price point of the headsets, Varjo is accelerating organizations' ability to bring immersive technology into the workplace.

Both the XR-3 and VR-3 headsets are available for order immediately on varjo.com or through one of the more than 35 authorized resellers in the company's [global reseller network](#), while shipments start in early 2021.

About Varjo:

Varjo (pronounced *var-yo*) is based in Helsinki and is creating the world's most advanced VR/XR hardware and software for professional use, merging the real and virtual worlds seamlessly together in human-eye resolution. www.varjo.com

Customer & Partner Quotes:

“High-fidelity is critical for effective mixed reality training for pilots. With the Varjo XR-3, the realism is further increased in Prepar3D which removes negative training when recreating conditions of the most mission critical scenarios. Prepar3D v5.1 supports the Varjo XR-3 out of the box, giving all types of pilots an affordable and agile option for training.” – **Chris Metel**, Prepar3D Engineering Program Manager at **Lockheed Martin**

“Immersive simulation training that replicates real-life scenarios is essential in helping prepare health care providers and students provide safe patient care,” says **Ingrid Laerdal**, Vice President of Patient Care at **Laerdal**. “We are constantly exploring how new technologies can enable more effective training of health providers, that in turn can lead to improved patient outcomes. With Varjo’s latest headsets, we see a potential to take high-fidelity simulation training to a new level of realism, immersion and emotional engagement – almost allowing the learners to forget they are wearing a headset.”

“Varjo’s new full frame Bionic Display, with its wide and natural field of view and its mind opening human-eye resolution, is the perfect key for our extensive design work in XR. Its advanced ergonomics allows us to work for longer periods in a more comfortable way”, said **Gregory Guillaume**, Vice President of Design at **Kia Motors Europe**. “The advanced depth sensing and LiDAR in the XR-3 should give us the possibility to merge the real and the virtual, enabling a fully immersive experience and natural body-hand-object occlusion.”

“Unreal Engine, coupled with Varjo’s industry-leading XR and VR headsets, has allowed users to power some of the most demanding use cases of immersive technology to date,” said **Sébastien Lozé**, industry manager for simulations at **Epic Games**. “We are thrilled to deepen our collaboration with Varjo on their next-generation product line of human-eye resolution XR/VR. When you combine the visual performance of the XR-3 and VR-3 with Unreal Engine, creators will be able to explore the next frontier of immersion using the unprecedented levels of visual performance. With the work being done around OpenXR to standardize AR/VR software development, Varjo and Epic Games are together on the leading edge of taking high-performance XR/VR simulations to every workplace.”

“Varjo’s XR-3 is another huge step forward for military training and simulation. From AR to VR, the Varjo XR-3 offers a complete spectrum of mixed reality tools, enabling applications like BISim’s VBS4 and VBS Blue IG to visualize and connect the real and virtual better than ever before.” – **Pete Morrison**, CCO, **Bohemia Interactive Simulations**

“When it comes to making the right decisions, details matter,” said **Lukas Fäth**, Senior Product Manager at **Autodesk**. “Varjo’s VR-3 and XR-3 headsets used together with Autodesk VRED are revolutionizing how design and creative work is being done by unlocking unlimited creative potential for virtual prototyping. Users are immersed in the most natural mixed and virtual reality environments, and new designs can be accurately visualized across the full frame in a photorealistic 3D setting.”

“The human-eye resolution VR devices have made it possible for the astronauts of the Boeing Starliner flight crew to participate in training sessions remotely with the same level of realism and interactions as if they were sitting in the physical simulators,” said **Connie Miller**, Product Specialist at **Boeing**. “As you can imagine, astronauts need to be able to read all the displays clearly, while simultaneously operating the simulated aircraft with their hands or controllers. We can’t wait to get our hands on the next-generation of VR and XR headset technology that enables users to further experience the exact feeling and conditions of real-life, mission-critical training exercises.”

“We are excited to integrate Varjo’s next generation of Mixed Reality head-mounted display into our emerging military and commercial simulation programs at Cole Engineering Services, Inc. (CESI). The enhanced Varjo XR-3 capabilities will allow us to apply this MR technology more broadly, blending together the virtual and physical fidelity interfaces of our collective training applications to provide a revolutionary simulation user experience. Varjo’s rich API and tailorable software capabilities allows us to scale the level of training immersion based on specific user needs and requirements without impacting the overall hardware design of the training systems. The inside-out tracking allows us to simplify our trainer architecture, while reducing the end-user’s set up time. Varjo’s continued commitment to customer service and technical flexibility mirrors our values at CESI to enable a relationship that truly feels more like a partnership than a traditional hardware supplier interaction.” – **Thomas Kehr**, Program Manager for Synthetic Training, **Cole Engineering Services Inc.**

“As virtual and mixed reality use cases become increasingly sophisticated, enterprise organizations need professional-grade, powerful workstations and headsets to bring them to life,” said **Rob Herman**, General Manager, Workstation and Client AI Business Unit, **Lenovo**. “We look forward to continuing our collaboration with Varjo to deliver our certified ThinkStation offerings to support the next-generation of high-fidelity, demanding VR and XR applications.”

Steve Cliffe, CEO and President of **Ultraleap**, said: “We are very proud to support Varjo as they launch their latest products with our world leading hand tracking. Varjo’s XR-3 and VR-3 headsets will be the first that bring our fifth generation hand tracking, known as Gemini, to life. They also mark the first mixed reality headset with our hand tracking. These are big milestones, not just for Ultraleap and Varjo, but for the industry as a whole, and demonstrate the progress that is being made to create better, more natural XR experiences.”