



IrisVision helps
legally blind people see clearly and live fully
thanks to its visionary
technology and AT&T IoT expertise

- **Business needs** - IrisVision wanted to add connectivity to its virtual reality (VR) headsets. That would allow it to provide remote support, update software regularly, introduce new features, and customize each device to the user's exact specifications wherever the customer desired.
- **Networking solution** - Adding the AT&T Global SIM makes it easy for IrisVision to deploy, control, and update its devices to enhance the value and support for the people who depend on them.
- **Business value** - Reliable connectivity means IrisVision users can take advantage of IrisVision's ongoing innovations and easily reach customer care whenever necessary.
- **Industry focus** - Medical device
- **Size** - Startup

About IrisVision

IrisVision is a device that enhances and optimizes vision for the legally blind. It offers a single solution to many eye problems, including macular degeneration, retinitis pigmentosa, glaucoma, diabetic retinopathy, cataracts, and more. The IrisVision headset is portable and lightweight and has a long battery life. It helps people with low vision make the most of their remaining sight.

The situation

As the company added new features and developed new versions of its proprietary technology, it wanted to be able to share them with the people who depend on these cutting-edge devices. IrisVision wanted to add highly reliable connectivity to provide even more value for its users.

Solution

The AT&T Global SIM gives IrisVision a streamlined means of connecting and managing its devices in the field. Customers can now benefit from updates and new features whenever IrisVision introduces them. They can also get help from the comfort of their home whenever they have a question or concern.



New hope for people with low vision

IrisVision was created to help the vision-impaired community see and regain their independence. IrisVision founder Dr. Frank Werblin, has made restoring vision his life's work, most recently as professor of neuroscience at UC Berkeley. A few years ago he expanded his research to help people with severe visual impairments who still have some remaining useful vision. He teamed up with Dr. Bob Massof from Johns Hopkins University to create a device that helps improve the vision of legally blind people.

Werblin brought on Ammad Khan, who previously founded and led a successful app development company to help bring the technology to market. "Based on a person's particular condition, IrisVision helps the user's brain access the parts of their eyes

that still function properly and provides enough information back to the brain to help it re-map a picture of what the person sees. They're able to see much more clearly—and consequently, to live more fully," said Khan.

IrisVision combines the latest in mobile VR technology with rigorous medical research—at a price many can afford. The startup company is now on a mission to bring this innovative technology to the millions of people around the world who might benefit.

"Our mission is simple," said Khan. "Enable our customers to, 'See clearly and live fully.'"

Improved vision and quality of life

Before IrisVision introduced its wearable, the only option available to most people with limited vision was a closed-circuit TV device with a small scanner that magnified text for reading. It was useful only in a person's home. IrisVision founders understood that people with low vision wanted to see better in all aspects of life, not just reading, and not just at home.



Zack Afridi, IrisVision Vice President of Sales and Strategic Partnerships, said early tests indicated IrisVision’s headset gave most users more than a dramatic improvement in their vision—it also enhanced their quality of life. Afridi, who was the first employee hired by Werblin and Kahn, was tasked with marketing the device, but doctors that he called were initially skeptical. “They didn’t believe a person wearing the device could suddenly show a tenfold improvement on an eye chart test,” he said.

Afridi suggested that doctors gather a few of their own patients with low vision to try the device. It didn’t take long for doctors and patients alike to see the benefits of IrisVision. “The patients were very surprised, and a lot of them who were able to see for the first time in years were really emotional about it,” he said. “The word started spreading and within six months a lot of agencies and individual patients started contacting us directly to ask about buying the product.”



Over the past 3 years IrisVision has sold thousands of the devices and has received outstanding reviews. “Our recent survey found a remarkable, almost 95%, satisfaction rating,” Afridi said. “And the best thing about this technology is that it not only lets you read; there



are so many other things you can do with it,” he said. “You can use it inside or out, revive your old hobbies, go to a sporting event or movie, cook, and just see people’s faces.”

A way to add continuing value

Abdul Zalil, IrisVision’s head of product, indicates part of the genius of IrisVision is that it can be adjusted to deal with many of the different conditions that rob people of their sight. The company has developed specific algorithms to address visual disorders such as macular degeneration, retinitis pigmentosa, glaucoma, and more. And because each user’s visual world is in a constant state of change, IrisVision is highly customizable. It’s possible for users to adjust their devices’ brightness, contrast, magnification, field of view, and other settings based on their individual needs.

“We don’t ship out a device with all the modes enabled because many of our users are older and may not be very technically savvy,” Zalil said. “We don’t want to overwhelm them with all the available features.”

Once the product arrives, IrisVision’s customer experience team contacts patients to discuss their

vision goals. “Based on those goals we enable or disable certain features on the product,” he said. “We want to know which modes work best for the user and how our device is performing,” Zalil said. “We also want to be able to set up things for our customers remotely.”

As the company added new features and developed new versions of its proprietary technology it wanted to be able to share them more easily with users. “We wanted to give people a little bit more than just being able to see,” he said. The IrisVision team began researching the best ways to supply connectivity to their lifechanging devices.

Reliable connectivity augments the user experience

Global reach was an important criterion as IrisVision considered network providers. It narrowed the field considerably. “AT&T and one other provider came into the picture,” Zalil said. “Then obviously we wanted something that is cost-effective, highly secure and reliable. What put AT&T on top for me was my interaction with their people.”



AT&T quickly responded to Zalil’s questions and shipped samples for his team’s consideration. “AT&T helped me meet my roadmap and provided what I was looking for in terms of technological help,” he said.



IrisVision chose AT&T Internet of Things (IoT) connectivity to provide ongoing support to its customers. Each IrisVision device is now equipped with an AT&T Global SIM that provides virtually worldwide, end-to-end connectivity.

“We use AT&T data services to customize the device for users,” Zalil said. “This also enables us to collect data analytics to understand how people are using the devices.” The AT&T Control Center, powered by Cisco Jasper, lets IrisVision easily deploy and manage its devices in near-real time. The cloud-based platform delivers diagnostic and management capabilities so IrisVision can easily support its users and give them an even better user experience.

A commitment to ongoing innovation

Thanks to connectivity provided by AT&T, IrisVision has introduced an updated platform, IrisVision Live. It offers optical character recognition (OCR) capability with speech, so users can see and hear books and other printed material. They can also use voice commands to perform simple functions like changing their device magnification.

In addition, IrisVision customers can now use their devices to take and store photographs and watch YouTube videos. They can easily obtain tech support whenever they need it. And they can take advantage of new features and software updates as they're introduced. IrisVision even pays for the connectivity, so users never see a bill.

IrisVision's ongoing innovation has gained national recognition. The company was named a CES 2019 Innovation Honoree for Virtual and Augmented Reality. The prestigious CES Innovation Awards honor outstanding design and engineering in consumer technology products.

Lifechanging technology

The best recognition, however, comes from IrisVision users. Afridi says he and his colleagues often hear from customers whose lives have changed profoundly since they started using their headsets. And sometimes it's the smallest things that have the biggest impact.



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Abdul Zalil

Head of Products and Operations, IrisVision



“One customer got very emotional when he told me that because of IrisVision, he was now able to read the prescription labels on his wife’s chemotherapy medication and therefore continue to personally care for her.”

Afridi continued: “It may seem like a small thing, but it hit home to the fact that small things matter. They can make a huge difference in these folks’ lives.”

For a woman in California, she found joy in being able to adjust her own thermostat. “If the temperature changed significantly, her daughter used to have to come in, sometimes in the middle of the night, to set the thermostat for her because she could not see at all”, Afridi said.

Zalil said others have told them that they’re able to get out and enjoy life a lot more often thanks to their IrisVision devices. “The possibilities are endless once they’re able to see and become more mobile,” he said. “They get so excited because there are so many new possibilities open to them. And we’re proud of them and happy that we’re able to help them.”



A shared vision for the future

AT&T technology has enabled IrisVision to further enhance the lives of its customers, Zalil said. What's more, dealing with a world-class provider with IoT experience has helped the IrisVision staff. "We have peace of mind knowing that our friends at AT&T are out there to help us whenever we need them," he said.

Afridi said he's also experienced a swift resolution of any questions with the AT&T team. "The response surprised me," he said. "For a large company to reply so quickly and treat us as partners makes us feel important. We're proud to work with companies like AT&T that take such great care of customers that are much smaller than they are."



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IrisVision's relationship with AT&T will only increase in importance as IrisVision continues its growth and development and pursues its lofty goals. "When we started we were a vision enhancement device and then we moved into vision rehabilitation," Afridi said. "We're hands-on with our patients and we continue to teach them how to use the device to get the greatest benefit for their improvement in their quality of life."

IrisVision is now trying to move beyond vision enhancement and rehabilitation to restoration. "We're working on research with Stanford, Johns Hopkins, and healthcare provider and insurer, UPMC, to actually help restore vision," Afridi said.

In the meantime, many of its users are seeing things they haven't seen in years, regaining their independence, and improving their lives.