



Vocalytics uses AT&T IoT connectivity to turn sound into value

Business needs

A new way to create quieter environments in hospitals and other healthcare settings.

Networking solution

Vocalytics' Atlas noise-measuring devices connect to routers equipped with AT&T Global SIM cards.

Business value

Reliable coverage, secure access, and dependable connectivity in challenging, often complex environments like hospitals.

Industry focus

Artificial intelligence, machine learning, IoT, edge analytics, ambient sensing, audio data

Size

Scale-up

About Vocalytics

Vocalytics turns voice and sounds into value in harsh physical world environments, helping clients extract immense value from sound data within their facilities. The company today prioritizes healthcare. It's also poised to serve clients across the retail, pharmacy, defense, commercial real estate, and education industries across health, safety, and customer experience use cases.

The situation

After developing a device that uses AI to understand sound helping facilities improve patient experience, Vocalytics needed a low-friction way to centralize the data for their clients.

Solution

Vocalytics equipped routers with AT&T Global SIM cards to deliver reliable and secure connectivity that Vocalytics' innovative solution required.

Unlocking the value of sound

Vocalytics turns sound data into value for its clients. It's a machine learning platform that utilizes sound and voice technology to passively understand physical environments and provide actionable insights – like Shazam for ambient background noise in any space. While the platform can be used in various sectors such as the military and commercial industries, its primary focus is healthcare. Vocalytics aims to support the nation's health and is at the forefront of this life-saving revolution.



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Van West
Founder & CEO
Vocalytics

Vocalytics AI software is engineered to protect privacy, listening only for specific sound profiles. It doesn't capture personally identifiable information, payment card industry data, or protected health information.

Founder and CEO Van West is an enterprise business development and product strategy entrepreneur who has launched and scaled startups, including some leveraging security camera footage and artificial

intelligence. Recognizing that connected microphones are everywhere, from smart speakers to CCTV systems, West launched Vocalytics to unlock the value in sound for enterprises. “Vocalytics is a way to understand noise,” he said.

Making hospitals more restorative

Vocalytics is a passion project for West, who came to understand how disruptive noise can be to patients when spending time in the hospital with his younger sister Hadleigh, who had systemic idiopathic rheumatoid arthritis over the past 20 years. During the 10+ months she spent in a California hospital, West and his family saw the negative effects of noise, especially on patients' sleep.

“We're very narrowly focused today on hospitals within healthcare, especially on the inpatient experience, because restful sleep is so important to recovery,” West said.

Sadly, Hadleigh succumbed to her illness, but West continued his quest to make hospitals a quieter and more restorative enclave. “Quietness in the patient room overnight is actually the lowest scoring of all eight domains in the patient experience survey known as HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems),” he said. “It's a very painful problem for patients, facilities, and administrators.”

West and his team began researching the market and developing the go-to-market business case for Vocalytics. They worked through the Techstars United Healthcare Accelerator, which helps entrepreneurs find product-market fit, get traction, and access capital and mentorship. It was important to design an independent solution that was not reliant on integrating with bedside call buttons or hospital Wi-Fi. The Vocalytics team created the Atlas device to process and transmit data about hospital noise and looked for a seamless way to provision the device with connectivity.

Quantifying every sound

A longtime personal and business relationship with AT&T led West to seek advice from AT&T experts. AT&T suggested connecting Vocalytics' Atlas devices to routers equipped with AT&T Global SIM cards to deliver the robust, reliable, and secure connectivity that the Vocalytics innovation required.

The connectivity proved to be exactly what Vocalytics needed. “We're able to quantify every single sound that occurs within those patient rooms, in real-time, and locally on each device – not up in some cloud later,”

he said. The model eliminates the potential liability of transmitting voice or speech data to the cloud, so there is no sharing of words, identities, or personal information.

“We’re compliant with every privacy standard because we’re processing the device and removing anything identifiable; nothing can be recreated and tied back to an individual,” he said. “The solution gives hospitals actionable insights with a library of more than 500 ambient sounds that occur within any space across an entire facility, which can help them to improve those HCAHPS patient experience scores and generate new net revenue from hospital rankings.”

Reducing risk, improving reimbursements

Today, Vocalytics helps hospitals improve clinical and care delivery workflows. Its Atlas device is about half the size of most cell phones and has a powerful omnidirectional microphone array. It simply requires access to power, so Vocalytics typically places it in the power outlet behind patient room TV sets.

Atlas uses artificial intelligence and machine learning to monitor environmental & behavioral sounds (like alarms, screaming, snoring, etc.); the device can also act as a patient monitoring solution with health triggers such as coughing. “We’re not at a point today where we’re pushing an alert out to the nursing station when a patient is coughing, wheezing, or breathing heavily, but we can accurately classify each sound. We recognize every sound within the space.” This records everything that occurred acoustically within patient rooms and other spaces.

The solution can help hospitals do a better job of responding to alarms, West said. Vocalytics created an analytics dashboard that helps the hospital understand acoustically the sounds that are most disruptive to restful sleep and likely to affect its patients' rest and HCAHPS scores.

“Our tool can measure and provide actionable insights,” West said. “We’re reducing risk by helping nurses respond faster to the right alarms, directly influencing reimbursements by improving HCAHPS quietness scores, and driving net new revenue from public hospital rankings.”

Optimal uptime

West is enthusiastic about the work that Vocalytics is doing with hospitals. “There’s just so much value in understanding the acoustics of what occurred in that space since it’s a critical recovery environment,” he said. “It’s been fantastic working with AT&T to build a solution not limited by industry procurement cycles, enabling us to focus on rapid value creation for our customers.”

Using AT&T Global SIMs for IoT connectivity enables Vocalytics to launch pilot programs quickly. “We don’t have to go through the traditional lengthy InfoSec reviews because we’re not sitting on the hospital Wi-Fi; we’ve got a cellular-based router and some mesh nodes. We plug and play to drop in a device and extend our network. Running on AT&T gives us flexibility in a more customized environment.”



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West is pleased that his positive experience as a longtime cellphone client has been repeated on a much larger scale in his business venture.

He also spoke highly of the AT&T professionals with whom he works. “The account team support has been great. And the AT&T enterprise platform has many more features that we’re eager and excited to expand into,” he said. “We haven’t had issues from an IoT management perspective. The guidance and expertise we’ve gotten from AT&T has been great, and I know we’re only going to dive even deeper into that next year.”

Security is paramount

West mentioned the flexibility of the AT&T platform, noting, “Having that flexibility has been a great opportunity for our customers and focus on innovation. AT&T IoT network coverage and service have been good across the board.”

Vocalytics’ relationship with its clients depends heavily on AT&T’s reliability, he said. “Loss of data is the most critical piece with a data analytics and signal processing company, and it’s absolutely critical with our relationships. That’s been much easier to manage because we’ve had consistent uptime with our clients across the AT&T IoT network.”

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He spoke highly of the security AT&T offers Vocalytics and its clients. “Security of data in transit is essential, especially in healthcare. Security will always be paramount, and the more we can improve on that side, the better it will be for us and our clients.”

Solving healthcare problems

Initial reports from hospital clients reveal high levels of client satisfaction. “Over the recent trimester, we’re seeing some of those HCAHPS scores double,” he said. “They’re seeing future value as well. Quietness at night is just scratching the surface here. If we decide to go into clinical diagnostics, we can get there, too, and then there’s predictive and preventative maintenance from machinery that may be failing. We can cover many different aspects from a single signal processing platform.”

The company’s early success has caused some to advocate expanding into new verticals, but West is focusing on hospital care for the time being. “Quality healthcare experience is critical to humanity, especially considering my sister’s experience over decades and even what COVID has done to the world. It’s also critical to solve healthcare problems while keeping privacy at the forefront,” he said.

When he does decide to expand into other markets, he said, “The relationship we’ve got with AT&T will help solve procurement hurdles while maximizing our client coverage. We’ve got lots more to unpack, and we’re excited to be in a world where we can add a ton of value, turning sound data into massive value for our clients,” he said.