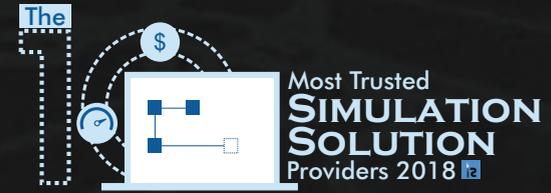


Cover Story



Raj Raheja
CEO
Heartwood Inc.

Heartwood Inc:

Market Leaders in Virtual
Interactive Training



*We believe critical, complex information
should be easy to follow,
learn and master.*



Founded in 2007 at San Mateo, CA, Heartwood's virtual interactive simulations and guides help operations, maintenance, and field service teams perform complex procedures faster, safer and with less errors. Its visual, 3D interactive and portable applications allow them to practice procedures on equipment virtually via web, PC, mobile, AR and VR platforms. Heartwood's customers reduce workforce training time by up to 60% and see an ROI of up to 7x.



As a market leader, Heartwood supports a strong base of customers and partners including, Apple, Reynolds, Pacific Gas & Electric, Norfolk Southern, Tetra Pak, Komatsu, Audi, Sikorsky, Oshkosh and Raytheon. Leading brands in Manufacturing, Utilities, Energy, Railroad, Heavy Equipment, Automotive, Aerospace and Defense leverage its virtual interactive simulations and guides every day. It is recognized as one of Inc.

Magazine's 500|5000 Fastest Growing Companies, and a "Top Simulation and Training" company.

Virtual Interactive Experience

Heartwood Inc. offers Virtual Interactive Training (Simulations & Guides) that allows workforce to train anytime, anywhere, on any platform. Instructional information is displayed as 3D interactive content that mirrors the real world in both 'form' and 'function'. Simply put, this means it looks like the real thing, and acts like it. The 3D Interactive applications developed by the company are specifically tailored for Operations, Maintenance (O&M) & Safety.

A Tech Enthusiast

Raj Raheja is the CEO of Heartwood Inc. He provides a leading voice for the future of 3D Interactivity and Virtual Training technologies. He believes in meshing great technologies together and is passionate when Visual and Interactive technologies are at play. Raj co-founded Heartwood with Neil Wadhawan, and focuses on company vision, culture and new technology development.

"I believe in using technology to make jobs easier, faster and safer. And I also believe that we should do it responsibly, not just because it can be implemented. For example, tacking on a VR headset onto an employee with no other training access

point and roadmap thought, would just be a science project", states Raj.

He believes, *"Our company, based in Silicon Valley – a region committed to innovation – has developed a way to help technical workforce learn complex tasks with 3d interactive technology that is as simple as using any other app – on their tablet, PC, web browser, and yes, AR and VR as well. Training happens in a classroom, on*

a plant floor, in between job sites and 2 minutes before the task sometimes. We need to be there for the worker all the way."

Raj has been awarded 'Entrepreneur of the Year' and featured in – Inc. & Entrepreneur magazines, San Francisco Business Times, Silicon Valley Business Journal and more. He has been an invited speaker at Univ. of Wisconsin-Madison, Autodesk, Unity and more. He intensely writes about his vision for the industry, the company, his team and founding principles on Heartwood's well-read blog.

Personalized Training Approach

Raj has mentioned a study published by Deloitte In 2015, which states that around two million manufacturing jobs would go unfilled between 2018 and 2028, with a potential economic impact of 2.5 trillion. Skilled technical trade positions will go empty because companies will not find trained workers to fill them.

However, he believes that at the same time, there is an emerging trend in learning that could be a silver bullet – the shift from Instructor-led training to Student-centered learning. The one-size fits all approach to training may

no longer be sufficient. Many companies are moving from "chalk and talk" style delivery to more efficient and effective hybrid learning programs. Unfortunately, sometimes that still results in "Death by PowerPoint", just that it happens online. There is a lot of reading and seeing, but not much doing.

This is where Heartwood steps in. Its 3D Interactive Virtual Training apps allow workforce to practice procedures anywhere, anytime - before they arrive on their shift. This gets them into peak production mode faster and decreases costly ramp-up training. Now workers can learn to operate and maintain equipment using engaging visual apps. There is less need to fly new hires in for training. There's consistency worldwide. And it's all done in less time and at scale — so employees are in the field or on the floor working smarter, sooner.

Training on Field

The initial focus of Heartwood was to fill the gap between costly live training and ineffective passive eLearning. At the core, it existed as a Training & Simulation company. After a decade of Enterprise training deployments in Fortune 1000 companies, the company learned that there is a ton of untapped ROI beyond the classroom or training environment – it's in the field.

It was reducing learning times and travel costs for training sessions, making the investment into its technology certainly worthy, but the real impact was when Heartwood made small gains over high volume. Simply put, reducing training costs was great, but reducing operational costs in the field was the bigger deal. Now its solution is designed to span the lifespan of the worker from Training-to-Field-to-Refresher learning as one cohesive value extended loop.

Adversities in Technology

According to Heartwood, its biggest challenge by far and also the toughest competition is fighting status quo. Anytime new technology is introduced, especially in the enterprise, there is cautious optimism and a hesitation to



act. Thankfully that is changing at an unprecedented pace. It is tough to go even a week without hearing some Fortune 1000 company adopting interactive or immersive technologies for training and field service.

The company takes the business case approach with its customers, insisting on a minimum of 3 KPI's (key performance indicators) on the first pilot initiative. That way success, either in cost avoidance or otherwise, can be measured and lays the path for companywide implementation. When the team can't clearly define that going in, it has even asked the customer to halt and re-think their starting point.

Future Aspirations

According to Heartwood, Anyone who has a job needs training, and always will. How they will train though – that will change with every technology paradigm shift. The tough part is to first predict where the opportunity is going to be, and second, how dynamic it is.

It is undeniable that the worker of tomorrow will be more decentralized, more mobile, and needing information 'just-in-time' at the point of use. From a platform perspective, Heartwood is predicting some combination of Tablet+Phone+Wearable and a seamless switch between them. They would all have a similar experience of absorbing content, just different degrees of



immersion and end-use. The company is betting on that vision and is planning its solution roadmap accordingly.

Cliental Assessments

“The owner’s manual is so confusing. It’s almost impossible to mess up when we use your apps. They are something that can be utilized by apprentices and journeymen for years to refresh their skills.” – Pacific Gas & Electric

“Confidence & mastery has noticeably improved! Where students seemed uncertain before, you can now see that the person knows what they’re doing.” – Norfolk Southern Railway

“The Audi TT simulation is one of the best received WBT modules that we have ever done! Over 15000 dealer folks benefited from the training- and it was a tremendous help in introducing the new Virtual Cockpit Audi technology to our dealer body. I just want to say that you guys have done a great job on the two Audi Virtual Cockpit Simulations. Everyone was very impressed by it. It is featured on the Audi German training website and is available worldwide.” –

Manager- Technical and Collision Training, Audi

