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Making the Impossible, Possible. *A Conversation With Top Safety Technology Leader Cheemin Bo-Linn*

by *Serious Labs*



Dr. Cheemin Bo-Linn

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Lead Independent Director
of BlackLine Safety

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Q: Tell us a little bit about yourself and your background.

A: I was born and raised in Houston, Texas, and led global teams in the finance, consumer, and industrial sectors while living in the US and Asia as I earned my Bachelor of Science and Master's Degree in Administration. Then as I completed my Doctorate degree at the University of Houston, before attending Stanford University, I worked in Texas' major industry sectors, such as oil/gas and technology.

It's natural with my interest in technology that I later held Fortune 100 operational roles, and later board of director roles leveraging technology. As an example, we delivered solutions that improved operational efficiency with safety guard rails in energy and healthcare, where safety is critical.

Currently, as CEO of Peritus Partner Inc., a valuation accelerator, our global teams lead companies in digital transformation, leveraging new emerging technologies such as artificial intelligence (AI) and cybersecurity. This the same subject I recently taught as Visiting Professor at the joint EMBA/MBA program of the University of Hong Kong, Columbia University, and London School of Business.

Q: How did you become involved in the world of technology and Silicon Valley?

A: I have always worked in the intersection of innovative technology, engaging customer experience and digital transformation. So when the opportunity arose, I welcomed the promotion and move to Silicon Valley where I was VP of IBM running a multi-billion-dollar business.

The Silicon Valley culture, reinforced with innovative product leadership, contributed to my induction into the "Hall of Fame for Women in Technology" program supported since US President Bush through Obama, a unique recognition which I share with my teams.

Q: It looks as though you are involved with several companies focused on safety, such as Serious Labs and Blackline Safety. Tell us about them, and what drew you to these companies?

A: I am the Lead Independent Board Director of Blackline Safety, and I serve as a Senior Advisor to the Board of Serious Labs. Both of these companies provide safety products.

Blackline Safety is a global connected safety leader that provides wearable safety technology, personal and area gas monitoring, cloud-connected software, and data analytics

with cellular and satellite connectivity to meet demanding safety challenges. Blackline's wearables increase productivity in over 100 countries, have reported over 167 billion data points, and have initiated over five million emergency responses.

Serious Labs is an award-winning technology company that develops virtual reality (VR) operator training solutions, such as VR simulator and XR training solutions, for the global heavy equipment industry. Their training products are used in industries such as construction, aerospace, and energy to assess operator readiness and even provide credentials in simulation.

I was attracted to both of these companies because of their hardware-enabled software as a service (HE SaaS) safety solutions and their dedication to getting workers home safely.

Q: How do you feel safety and technology go together?

A: To meet the challenges of today's worksites, we need to innovative technology that addresses complex, integrated safety needs.

Blackline Safety realizes that there are five key benefits of technology-enabled safety solutions. These include: real-time visibility for faster action, faster emergency response, streamlined evacuation, data driven insight for improved performance, and intrinsic safety.

Real-time visibility refers to cloud-connected devices providing real-time data and awareness into what's happening, so companies can take action much faster. Through live monitoring of connected safety devices, it's possible to respond to an alert in less than 60 seconds, and get the most accurate information for how to best proceed.

By using streamlined evacuation management with connected worker solutions, you can send out mass notifications to clear a facility in the event of an emergency, getting real-time awareness of the safety status of every connected worker, and removing the need for time-consuming manual headcounts. First responders can go directly to a person's location if they need help.

Blackline also leverages data-driven insights to boost performance. Connected devices can generate billions of data points, and with the right reporting features built into the solution, companies get rich information to help them to evaluate compliance and analyze trends that can help predict and prevent incidents and amplify productivity.

Lastly, remote and industrial workers cannot typically carry technology, like phones or tablets. Intrinsically safe wearable devices, with built-in connectivity, ensure they have a way to call for or access help.

On the training and assessment side, Serious Labs recognizes that VR can take safety to an entirely new level. VR offers tremendous benefits in terms of assessment and skills-building, and we're seeing more companies working to bring that to their customers. What's unique about Serious Labs is the hardware element – it goes beyond just using the VR headset that people are practicing with actual machine controls.

Serious Labs' hardware simulators are portable so that they can be set up virtually anywhere—in-store, on the worksite, in an office, etc. Their Mobile Elevating Work Platform (MEWP) simulator replicates the millions of aerial lifts that are used around the world. It objectively measures dozens of data points of "Operator Telematics" so that the trainer can provide highly detailed information to help the operator

increase their proficiency quickly. The simulator is 97% predictive of real-world operator behavior, so it gives a very good sense of the operator needs to work on to increase their safety, and it lets them practice without risking any injury or damage to equipment.

Serious Labs has another exciting project in the works that will be launching in 2023. It's a next-generation commercial vehicle simulator to help train and upskill truck drivers. The advances that Serious Labs is making in simulator portability, comfort, and affordability will make this product very useful to the transportation industry. They're projecting it will significantly reduce training costs, lower greenhouse gas emissions from training, and increase safety on the road.

Q: How do you feel Asia differs from the ROW when it comes to safety? What are the special concerns?

A: According to the International Labour Organization, every year more than 1.1 million people die from occupational accidents or work-related diseases in Asia and the Pacific, one of the highest totals in the world.

Four potential key areas for improvement are:

- 1) Implementation of occupational health and safety regulation and enforcement
- 2) Lowering dependency on manual labor
- 3) Increased technology usage, amidst minimal physical equipment
- 4) Improved education and training of workers, overcoming communication language barriers

There is also a construction boom with the rapidly growing economies in the Far East and Middle East.

So the trend is towards increased regulation, oversight, and the demand for affordable safety solutions. This in turn is driving the demand for connected safety solutions such as those offered by Blackline Safety and Serious Labs.

Q: Where do you see an opportunity for the future of safety?

A: Workplace digital transformation through the Industrial Internet of Things, also known as "Industry 4.0," is already underway, and connected safety will be a big part of that.

These trends have become reality. Let me share three insights with you.

First, companies are connecting asset information to emergency response planning and putting it in the hands of workers in real-time for quick decision-making.

Second, data from connected safety solutions will ultimately mean bottom line productivity with improvements for companies that adopt this technology. This force is likely to continue in the face of increasing inflation as the margins of industrial companies are squeezed.

Third, according to Visual Capitalist, 2021, connected workers have been shown to increase productivity by 8% while also reducing operational spend by 8.5%.

Q: What is your vision for the evolution of safety technology?

A: There will be a convergence of capacities. Sensors and features will be, or are integrated into a single, intrinsically-safe device, alongside the increased integration of smart devices with a variety of mobile apps. These apps provide access to training, remote assistance from an expert team, live data from processes occurring

around them, checklists and procedures, inspections and audits and so much more.

As an example, Blackline's products incorporate sensors for gas detection, no motion, slips/trips/falls, emergency phone, push-talk, texting, contact training etc., into a single device relevant for multiple use cases (such as a lone worker working near hazardous gas, confined space entry etc.)

There will also be more automation enhancements to free up people's time (i.e., less manual checks on equipment, less reporting hassles) so they can focus on higher value work.

By connecting data and workflow, companies will have more insights to understand how their business operates, how they can anticipate the unexpected and align on continuous improvement initiatives that increase the effectiveness of a worksite and its processes. This will also help keep everyone safe.

As simulation products continue to improve, we will see more certification and advanced training that takes place entirely in a simulated environment. We are already seeing this with Serious Labs' simulators, which have been approved by groups such the International Powered Access Federation (IPAF) to provide some credentials and license renewals based on simulator use. This trend is likely to continue to where people are receiving their initial training in simulation, with comprehensive and objective machine-based scoring.

Finally, companies can use their connected safety data—whether it's coming from wearable devices or simulator assessment—to better protect their people and provide inputs that tell a compelling ESG (environmental, social and corporate governance) story along the way. I call this the rise of the "S" in ESG.

Q: How will VR and AI continue to transform safety?

A: AI can predict patterns in collected data from workers and plant operations and serve up critical information to make fact-based decisions and proactively improve safety.

VR can help with training and modeling scenarios—proactive visualization and being able to see threats before they materialize can provide insights helping first responders move more safely and quickly to de-escalate the hazard and assist in training.

VR offers almost limitless abilities to place trainees into any environment that allows them to experience what could happen in a variety of situations and also to recognize what environments could lead to real

life incidents and injuries. The possibilities are limited only by the creative minds of the designers.

Expect to see early adoption of VR and AI for safety applications in use cases with extreme risk of injury or a high cost should an accident happen—fire, first responders, or hazmat (hazardous materials) crews.

Q: What advice would you give to women who are entering the fields of health and safety?

A: Be passionate yet thoughtful about where and how you want to dedicate your time. Have fun and lead teams so that your leadership “makes the impossible possible.”

Women have a big role to play in tackling some of the safety challenges that industry is facing in Asia and beyond, and with the innovation that’s happening right now, it’s a very exciting time to get involved.



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About Serious Labs

Serious Labs is a global technology company delivering safety training solutions to industry through elegantly designed VR, Serious Games, and sophisticated simulators. The Company has been designing game-based training products for over 10 years and has been primarily focused on safety training and operator competency within the Construction, Mining, and Oil & Gas industries.