The goal of our session is to discuss the peripheral hardware issues involved with allowing ML training systems to perform optimally. The cooling capabilities, power stability, and connector performance can at times be neglected until board layouts are relatively firm, reducing design options and needlessly limiting system performance with well-designed chip architectures. The panelists are eager to discuss important design factors in our respective areas and to highlight aspects of our technologies that can increase compute power, reliability, and overall value for ML systems and chip designers.

Mikros has been designing and manufacturing the highest-performing microchannel liquid cold plates for over 30 years, with the ability to dissipate over 1 kW/cm² of heat power with minimal chip temperature rise. That efficiency means we can easily cool chips in the 1-3kW power range with higher coolant temps and lower pumping power. We've also learned to help clients navigate the micro-level issues that negatively impact thermal management. “It’s the little things,” they say, and in thermal management, we certainly agree: chip surface flatness, TIM bond line thicknesses, microchannel flow designs, and the ability to tailor cooling to MCM power maps to reduce overall data center energy consumption. We are moving the industry forward with cooling designs that can handle the power demands of next gen AI chips while helping companies still meet their broader sustainability goals.

The AI Hardware Summit has always been a great place to learn about new technologies, hear from forward-thinking developers, and make great connections across the industry. I am looking forward to meeting new faces and hearing the stories of other industry leaders, hearing the latest developments across the ML ecosystem, and contributing to conversations that will help advance the industry toward a sustainable future.

Drew Matter will be speaking on: Networking, Power, & Cooling: Next Generation System Design for Maximising ML Training Performance