Southwestern Montana has the highest per capita concentration of optics and photonics firms in the nation. Montana-based firms and researchers from Montana State University (MSU) have expertise in a wide range of applications, from remote sensing for autonomous vehicles and defense applications to bio research and medical imaging. The innovation and workforce development engine is centered in Bozeman with PhD, master’s and bachelor’s programs at MSU, and a 2-year associate’s program in photonics and laser tech at MSU-affiliated Gallatin College.

A recent partnership was announced between Montana State University and the University of Arkansas, creating the MonArk Quantum Foundry. Supported by the National Science Foundation, this partnership will accelerate the development of quantum materials and devices.
Bridger Photonics, Inc (Bridger) creates disruptive LiDAR solutions that are transforming the oil & gas and industrial metrology industries. In 2018, Bridger announced Series A minority-share investment from Zeiss Ventures. Adding to their core metrology products, 2019 saw the commercial release of Bridger’s Gas Mapping LiDAR™ (GML) technology as a service for the oil & gas industry. Prior to COVID-19, Bridger’s GML revenues had more than doubled in each of the five quarters since its release. Bridger’s GML is reducing the cost of methane emissions reductions, while at the same time improving the safety and operational efficiency of the Oil & Gas industry throughout the entire natural gas value chain. GML was awarded an R&D 100 award in 2019, recognizing the technology as one of the top innovations in the world that year.