

Emma Steinmeyer

Media and Public Relations Lead

emmas@focaltechnologies.us

714-510-7403



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**Focal Technologies, Inc. Revolutionizes Water Remediation
New solar technology provides environmentally innovative solutions**

(Portland, OR) Focal Technologies, Inc., a member of VertueLab's innovative portfolio, is set to deliver the first Ray™ System, which uses concentrated solar for environmental remediation. The Ray™ Solar Remediation System focuses concentrated heat and UV energy to kill bacteria and destroy harmful organic compounds. This breakthrough technology is packaged as a portable and autonomous unit that can clean up environmental contamination to protect rivers, streams and aquatic ecosystems.

Focal has developed multiple test units and prototypes to ensure their production unit delivers their highest capabilities to date. The Ray Generation 2 units are proudly made in the USA with primary fabrication in Oregon City, Oregon. Focal Technologies is a new member of Oregon's growing sustainable manufacturing ecosystem and has received recognition and visitations from both of Oregon's senators, Ron Wyden and Jeff Merkley, in recent months.

Ray™ provides a cost effective solution for industries that must treat their effluents and control discharge. Ray's capabilities are applicable to industries across the agricultural and industrial sectors, touting such benefits as providing a higher than 99% kill rate of *E. coli* and breaking the carbon bonds that hold together fuels, glycols, wine and beverage production effluents and other difficult to treat contaminants. The company has also had encouraging test results on the acid chain of PFOA, a harmful carcinogen, and other organic compounds found in contaminated groundwater.

With funding provided by VertueLab, Ray™ has undergone rigorous testing at Oregon State University and at industrial sites in the Portland area. The lens provides superior disinfection of dairy manure effluent compared to UV lamp systems, which are also costly and impractical for field use. Ray's system of UV and TiO₂ photocatalysis and *"was able to concentrate the solar irradiance ~2-fold. This led to a 72 ± 38% increase"* of solar concentration compared to UV lamps. Ray™ has also demonstrated its success against industrial compounds. One such finding stated *"the Ray system was able to successfully lower antifreeze concentrations by 33 ± 1% ... This rate is 3-4 orders of magnitude greater than anything shown in the literature previously and demonstrates the potential of the Ray System to act as a low energy photocatalyst accelerator."* Both of these conclusions were published by Oregon State University, in partnership with VertueLab.

Built on the tenants of ingenuity, practicality, and sustainability, Focal Technologies Inc. was founded in Portland, Oregon by Donald and Eric Steinmeyer. A decades long Aerospace veteran, Donald created the first Ray™ lens. Eric realized the lens had boundless real-life applications, and today Focal Technologies, Inc. is committed to providing a more sustainable future by enabling industries and farmers to meet and exceed environmental thresholds in a carbon free and cost-effective manner. For more information please visit focaltechnologies.us, or contact VertueLab at (971) 770-2378.