

Autonomous, Continuous, eDNA Monitoring

Nucleic Sensing Systems was founded in 2020 in Saint Paul, Minnesota, USA by Ed Rudberg, Ph.D. and Mark Apfelbacher. They were finalists at Ocean Exchange in 2024 and 2025. Their BioSensor is a continuous-flow biological molecule detection machine. It acts like a 'smoke alarm', autonomously sampling and analyzing the presence and abundance of environmental



DNA (eDNA) and RNA and alerts users to results without being on site. The system dramatically improves how quickly we detect eDNA, harmful algae, pathogens or invasive species making reaction times much faster as well.

They recently secured their second SBIR III contract from NOAA's National Marine Fisheries Service for \$345,000 to develop their field-deployable automated

eDNA analyzer and secured their first paying, non-federal customer, the New Haven Regional Water Authority.

Winning Formula: "The special sauce is capital discipline. We use non-dilutive funding to shoulder the toughest engineering risk of hard tech, so that by the time our BioSensor reaches a customer it is already validated, reliable, and ready to scale. That approach protects our balance sheet, sharpens the product, and clears the path for broader adoption of a technology that would otherwise be too risky to buy." ~ Ed Rudberg

Discover more about their mission and technology: <https://ns2co.com/>

#NucleicSensingSystems, #OceanInnovation, #EnvironmentalMonitoring, #OceanExchange