Piera
S y s t e m s

COMPANY
Website:
www.pierasystems.com
Year Established:
2018
Industry:
Sensors and Air Quality Monitoring

Headquarters:
3359 Mississauga Rd,
Mississauga, ON L5L 1C6
Canada
Tel: +1 (647) 374-0101

TEAM
Vin Ratford – CEO
Aaron Soh – CTO
James Pekarsky – CFO
Mark Hobaugh – VP, Operations.
Raj Seelam – VP, Marketing
Howard Pakosh – Sales Director
Eric Thune – Sales, Business Dev.
Andy Soh – Chief Technology Advisor
Jay Ratford – Canāree Product Mgr.
Will Harader – Software Engineer
Hyosook Kim – Hardware Engineer
Chan-Ik Kang – Firmware Engineer
Neil Klepeis – Environmental Research
Scientist

PRODUCTS
Sensors: Intelligent Particle Sensors
AQ Monitor: Canāree
Applications: Air Quality Monitoring, Air
Cleaners, Purifiers, HVAC Systems,
Digital Health, Vape/Smoke Detection

Patents/Trademarks:
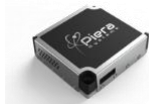US8680474, US8729485, US9128195,
Canāree™, SenseiAQ™

Figure 1: Intelligent Particle Sensor

Figure 2: Canāree AQM

COMPANY OVERVIEW: Piera Systems Inc. a wholly owned subsidiary of Piera Holdings, a Delaware Corp. was founded in 2018. We are a Mission-Based company whose goal is to make Air Quality Measurement simple, inexpensive, accurate and pervasive enabling a major improvement in the health of all humans and the planet that sustains us**.**

Customer Problem: The WHO has identified Air Pollution as the cause of 8.0M deaths per year with 91 % of the world's population living where air quality exceeds the WHO guidelines. In Sept 2021 the WHO cut those guidelines in half to save millions of lives. The primary cause is Particulate Matter (PM) from wildfires, industrial and vehicle emissions, etc. Studies show that Indoor Air Pollution from cooking, smoking, human behavior is 2-5x worse. Together climate change and Covid create an urgent need to monitor and improve air quality. Until now there has been no real-time, accurate, affordable method to measure and classify PM especially sub-micron particles (<1.0 micron) which dominate indoor air.

SOLUTION: Piera has developed a family of 'Intelligent Particle Sensors (IPS)' and Canāree Air Quality Monitors (AQMS) that use breakthrough technology for measuring the count and size of particles with a patented mixed-signal ASIC (PSC) and proprietary IP. Unlike current low-cost sensors which estimate particle weight, IPS is equivalent to expensive reference instruments reporting particle count and size in real-time for a wide range of particles. Particle Data drives our business model and using AI/ML techniques we identify sources of air pollution. For the first time, applications can be developed that take advantage of low cost, accurate real time data about PM and its impact on Human Health. **IPS** data is analyzed using Algorithms and Machine Learning/AI to identify and classify sources such as vape, cigarette smoke, wildfires, cooking sources, industrial emissions, etc. IPS is the core of our **Canāree™** family of Air Quality Monitors delivering Air Quality Monitoring as a Service. IoT enabled Canāree devices together with our **SenseiAQ™** software application delivers a real-time dashboard including the EPA's Air Quality Index together with additional analytics and alerts about indoor Air Quality. When deployed in any indoor space, Canāree will help you answer the question, **What's in your Air?** Data can be integrated with other devices and Building Management Systems to improve Air Quality.

Markets and Applications: IPS and Canāree can be used in a wide range of applications and use cases including Outdoor and Indoor Air Quality Monitoring for Citiies, Urban Spaces, Industrial Pollution, integrated with or operating alongside Air Purifiers/Cleaners and HVAC systems, detecting vape and smoke in hotel rooms, schools, public spaces.

Current State of Development: IPS, IPS Eval Kits and Canāree in production.   Test Reports Available with Certification by KETI. Compliance to ISO 21501-4 for clean rooms has been completed.

Business Model: B2B sales of IPS for use in end products (Air Quality Monitors, Air Purifiers/Cleaners, Noxious Gas Detectors, Proptech). Sell Canāree to businesses, consumers, enterprises, government organizations direct and though VAR/Resellers.

Partnerships: An exclusive R&D agreement with Luxen Technologies, Inc. (Korea) for design activities. Global Foundries for PSC production. Ideal Technology (China) for IPS, Canāree Production. HPE-Aruba Solutions Partner for Air Quality Monitoring. Piera is also a member of the edge ai + vision ALLIANCE.

What's in your AIR?