

# Company Profile



## COMPANY

### Website:

www.pierasystems.com

### Year Established:

2018

### Industry:

Sensors and Air Quality Monitoring

### Headquarters:

3359 Mississauga Rd,  
Mississauga, ON L5L 1C6  
Canada  
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## TEAM

Vin Ratford – CEO  
Aaron Soh – CTO  
Mark Hobaugh – VP, Operations.  
Howard Pakosh – Sales Director  
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

**IAQ Monitor:** Canāree

**Applications:** Air Quality Monitoring, Vape/Smoke Detection, Air Cleaners, Purifiers, HVAC Systems, Digital Health,

### 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 founded in 2018 identifies dangerous particles in the air you breathe, improving human health and providing healthy, energy-efficient indoor spaces. We use particle data and AI to identify sources of pollution creating AI driven, personalized assessments of Air quality.

**Customer Problem:** The WHO has identified [Air Pollution](#) as the cause of 9.0M deaths per year with 91 % of the world's population living where air quality exceeds the WHO guidelines. In 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 Indoor Air Pollution from cooking, smoking, human behavior is 2-5x worse. In 2023, The White House, CDC and [ASHRAE developed an Indoor Air Quality Standard that requires monitoring to create healthy, energy-efficient buildings.](#) Piera has the only 241 compliant air quality monitor at an affordable price delivering real-time, accurate, affordable data to measure and classify 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 to count particles with a patented mixed-signal ASIC (PSC) and proprietary IP. Unlike other low-cost sensors which estimate particle mass, 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. 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. Our **Canāree™** family of Air Quality Monitors are IoT enabled together with our **SenseiAQ™** software application delivering a real-time dashboard including the EPA's Air Quality Index together with additional analytics and alerts. 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 Cities, 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. Through our partner [Poppy Health](#), we measure indoor airflow instantly for energy savings, sustainability and occupant health leveraging the ASHRAE 241 IAQ Standard.

**Availability/Certifications:** IPS, IPS Eval Kits and Canāree through [Newark/Farnell](#) or direct. 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 through VAR/Resellers.

**Partnerships:** Luxen Technologies, Inc. (Korea) for design activities. Global Foundries for PSC production. AQS (Korea) 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?