



Simpli-Fi Automation

AI Powered Biomedical Device and Sensor Design

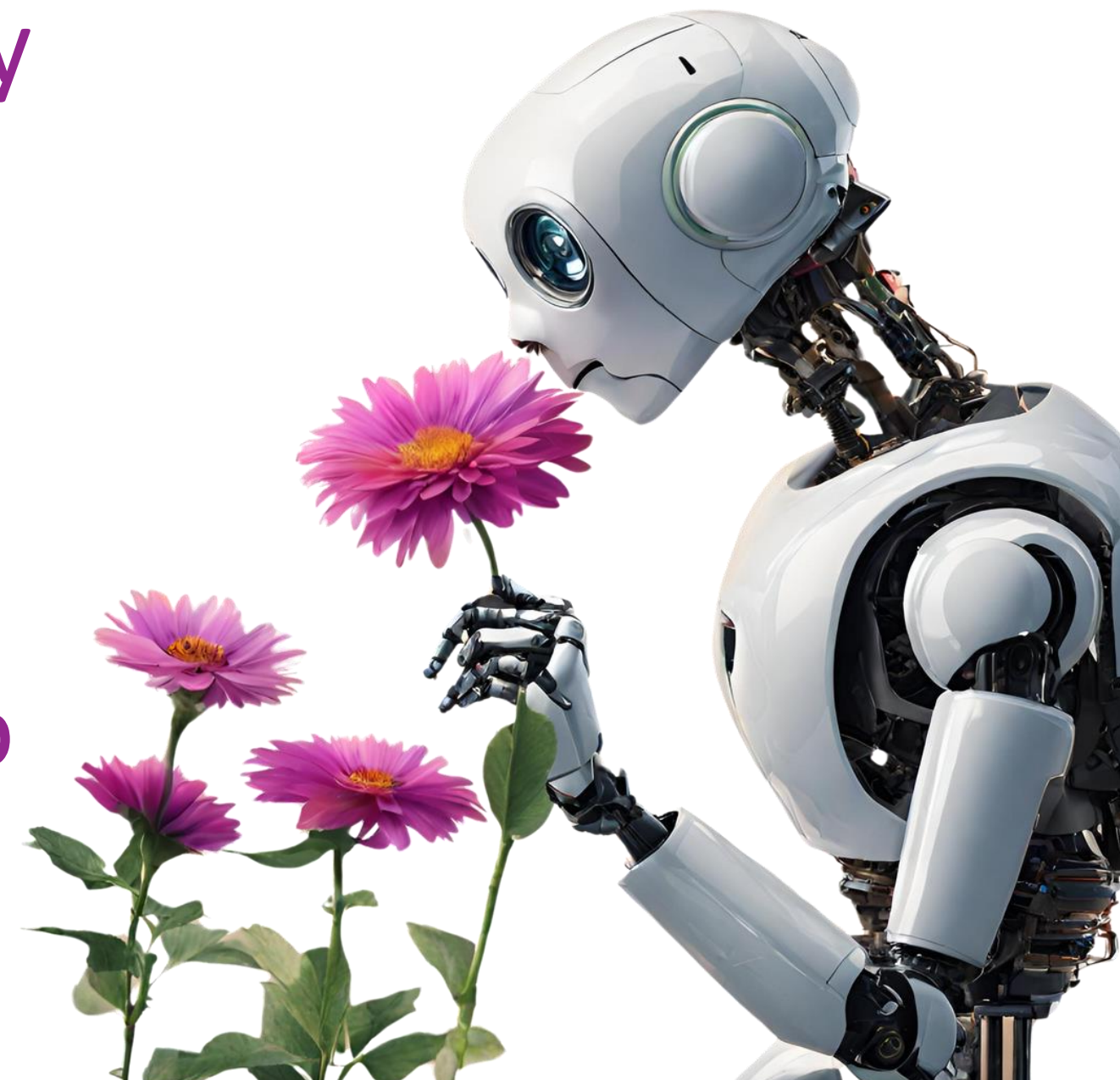
Introduction

The power of the chemical lab, anywhere, anytime.

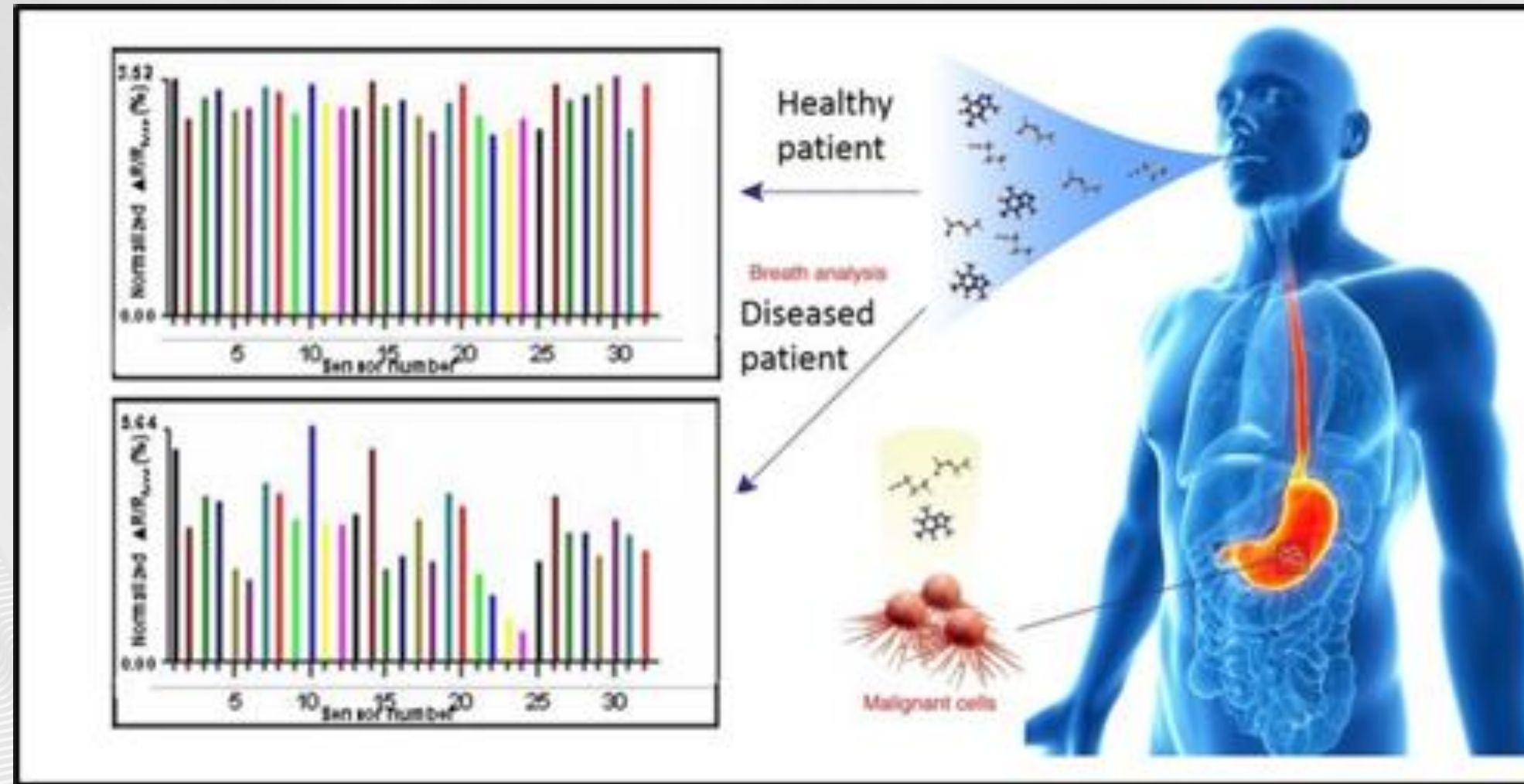
Simpli-Fi is developing the only commercially available wide-spectrum carbon nanotube-based electronic nose (e-nose) delivering the power of a chemical analytics lab to the palm of your hand. Our innovative lab-on-chip technology has the potential to transform every smartphone on the planet into a portable chemistry lab with the ability to monitor air quality, detect harmful chemicals, detect spoiled food, or even remotely monitor human health by measuring chemical biomarkers in the breath.

Imagine If AI Could Smell?

Imagine that every smartphone had a chemical analysis lab built in. Simpli-Fi is developing a technology to change the healthcare industry by unlocking non-invasive **breath biomarker** detection with our cutting-edge AI-enabled carbon nanotube olfactory sensory platform. With this innovation, we are making remote healthcare more accessible and affordable to everyone, everywhere.



What are breath biomarkers?



- Breath Biomarkers are biological molecules found in breath that can indicate the presence of a disease or an adverse health condition.
- Normal and abnormal pathological status and physiological processes in the human body can be characterized by these volatile organic compounds (VOC's) emitted in human breath.
- Measuring the levels of these biomarkers, doctors and researchers can gain insight into a patient's health status.

The Problem:

The cost of missing health screening and early prevention opportunities costs the US Healthcare System \$55 Billion each Year. Healthcare Provider Networks need the ability to accurately monitor health conditions and chronic diseases for their patients at home.

Impact on healthcare systems:

- Increased treatment costs.
- Delayed diagnosis and treatment.
- Reduction in quality of care.
- Strains on resources.
- Societal inequities in access to treatment.

The Opportunity:

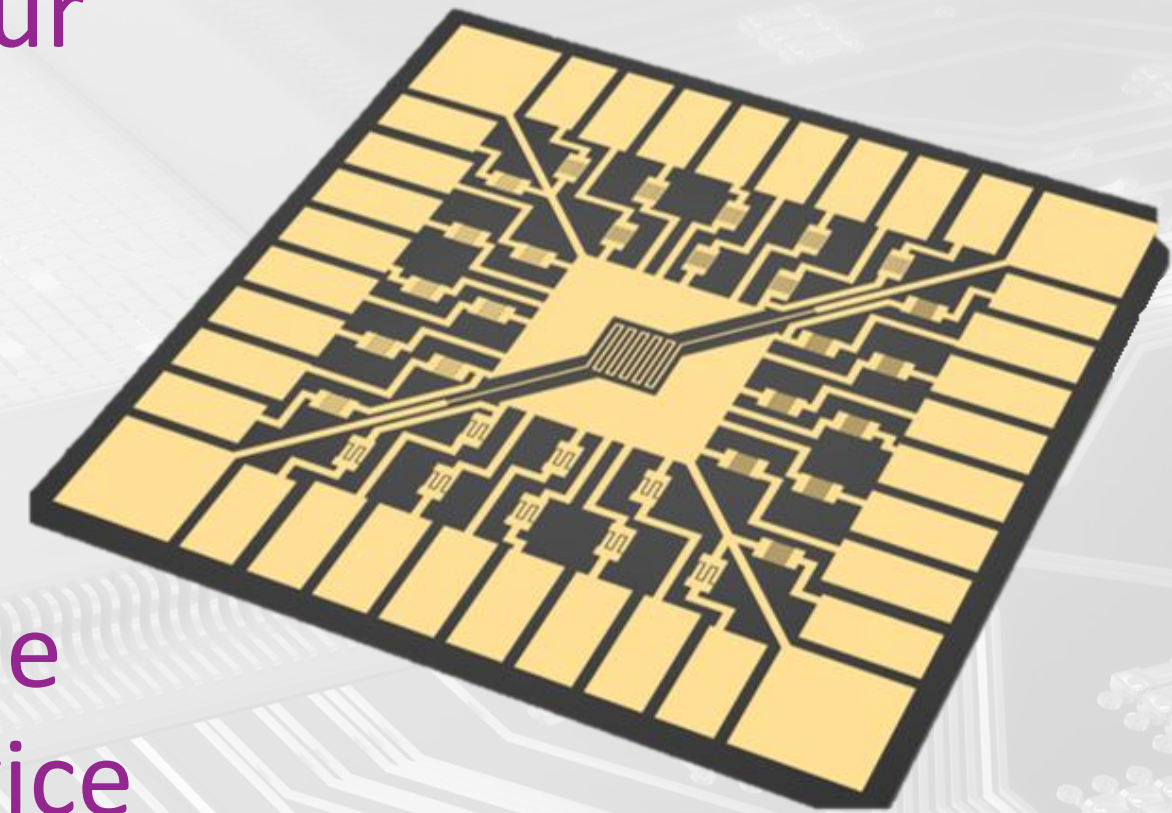
Home-based medical diagnostics will always need a chemical lab to support and validate caregiver findings. By developing a portable chemical lab that can be used from home in real-time, Simpli-Fi will empower the next generation of home care.

Benefits:

- Allows healthcare providers to accurately and continuously provide custom healthcare solutions to their patients, reducing the cost of care.
- Provides peace of mind to network patients.
- Allows caregivers to make informed on-the-spot assessments of health needs.
- Increase health outcomes.

Introducing PROVECTUS

Provectus: A revolutionary breakthrough in analytical chemistry, providing a compact, portable, and cost-effective solution to lab diagnostics in the palm of your hand. Provectus, a carbon nanotube-based sensor technology, represents a quantum leap in portable breath biomarker diagnostic technology, remote chemical analysis, and real-time monitoring, all integrated into a sensor chip smaller than a dime. The goal is to power every smartphone and wearable device with analytic chemistry by the end of the decade.



Provectus Telehealth

The hand-held sensor platform combines state-of-the-art artificial intelligence models with carbon nanotube olfactory sensing capabilities to provide real-time chemical analysis for medical diagnostics and health monitoring.



The Provectus sensor platform incorporates biometric sensors including pulse oximeter, ECG, and temperature for enhanced accuracy.

Simpli-Fi
Automation

Value Proposition

The power of the medical lab, anywhere, anytime.

Large healthcare provider networks like the Veterans Administration need to offer continuous and accurate at-home Health monitoring. Provectus is a hand-held device that brings the power of the chemical lab and personalized intake nurse to the best place for rapid diagnosis, the home. Unlike other non-invasive testing methods that detect one condition, the integrated breath-based nanosensor and on-board biometrics of Provectus provide the opportunity to monitor a wide range of diseases and metabolic functions with one easy-to-use device, delivering greater network operational efficiency, increased quality of care, enhanced user experiences, and increased healthcare accessibility all while reducing the cost of care to the provider.

Market Opportunity

AI Healthcare

Current-2023 (US) **\$20.9 Billion**

Projected- 2028 (US) **\$148 Billion**

CAGR 48.1%

*According to a MarketsandMarkets report published Feb 2024

US Remote Patient Monitoring Device

Current-2022 (US) **\$13.40 Billion**

Projected- 2028 (US) **\$25.28 Billion**

CAGR: 11.6%

* According to an Arizton Advisory & Intelligence report published June 2023

Breath Analyzer

Current- 2022 **\$1.19 Billion**

Projected- 2028 **\$3.8 Billion**

CAGR 15.9%

*According to a report in the Insights Partner published Nov 2023

Provectus & Healthcare

The Provectus Telehealth system gives continuous access to healthcare monitoring to everyone, everywhere:

- Personalized Healthcare:
- Early Detection of Illnesses
- Early Preventive Healthcare
- Non-Invasive Monitoring
- Remote Health Monitoring



Monitoring Mom



Long-term Care
for Loved Ones



Immunocompromised
Patients

Provectus & Clinical Environmental Monitoring

The Provectus Canary System provides continuous monitoring for airborne infectious Hazards:

- Measures Particulate Matter (PM), Temperature, Humidity, Carbon Dioxide (CO2), and VOC's
- Inexpensive C-Diff monitoring in environmental room air.
- Uses “scent mapping” to detect airborne pathogens including, Staphylococcus, E. Coli, Streptococcus, Pseudomonas aeruginosa, and more.



Operating Room Air Quality Monitoring



Monitor Shared Spaces



Prevent Hospital Contracted Infection

Provectus & Fitness

A cutting-edge, non-invasive, real-time approach to maximizing human performance through personalized data analytics.

- Rapid Chemical Analysis
- Readiness Scores
- Hydration levels
- Metabolic rates
- Recovery
- Performance Improvement Recommendations
- Continuous Monitoring
- Detect Traumatic Brain Injury and other inflammation-related effects.



Validation

- Our carbon nanotube sensor technology has been validated for the diagnosis of Covid19 in a 2021 study by NASA Ames Research Center and Stanford Medical as published in ACS Sensors 2023.
<https://pubs.acs.org/doi/10.1021/acssensors.3c00367>
- Our innovative integration of SWCNT sensor technology and biometrics for use in medical diagnostics has a non-provisional patent pending.
<https://patents.google.com/patent/US20240032817A1/en?q=US20240032817A1>
- Simpli-Fi has leveraged decades of R&D by licensing the **NASA e-Nose**. Our exclusive license to use the NASA Electronic Nose for use in medical diagnostics places us beyond the reach of our competition. **NASA Commercialization license DN-2273**
- The Provectus breath biomarker platform has been selected by the **Veterans Administration AI-Health Lab** as a potential at-home monitoring platform and the **Defense Health Agency** for remote human performance (health readiness) monitoring.



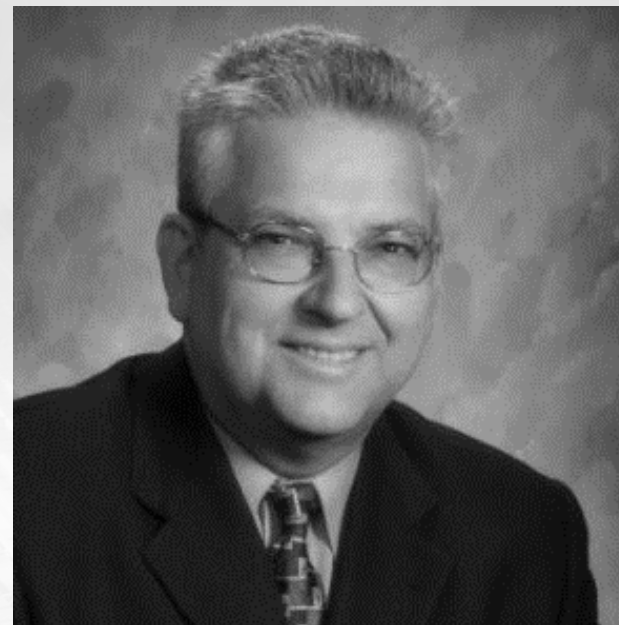
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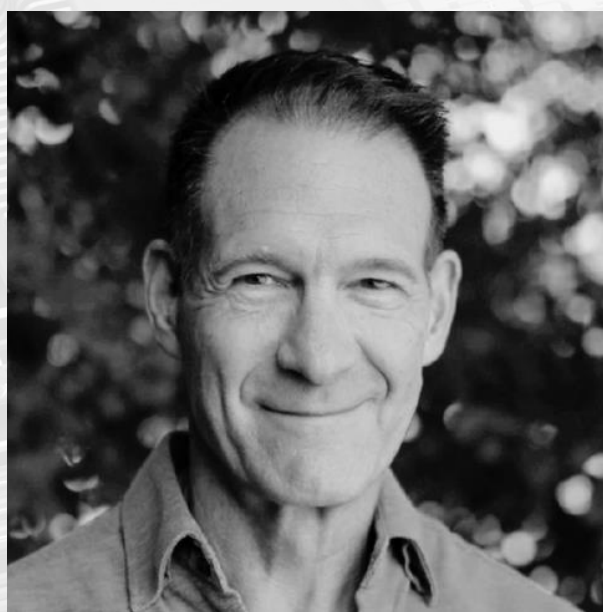
Amelia Hardy



Michael Wright



Cordell Hardy



Alex Ross



Tammie Bennett



William Dozier



Jerome Hamilton

Vision

Making healthcare more accessible, affordable, and effective, contributing to a healthier life for everyone, everywhere.



PROVECTUS



Bringing the Future of Healthcare Closer.

Thank You!



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