Thermouana Sensor Pack

CORPORATE PRESENTATION

World's 1st Sensor Pack that turns any phone into a medical grade thermometer or monitor.



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OVERVIEW

ThermoWand Technologies automates temperature readings, detects surface and core temperature levels non-invasively, and respects social distancing

WHO WE ARE

ThermoWand Technologies, a New York based company, was founded in 2015 to develop and prove it's proprietary technology, ThermoWand, will be the **WORLD'S FIRST** hybrid medical grade infrared thermometer that can work as a handheld or stand-alone automated temperature monitor which can detect temperatures of both humans and animals at a distance.

WHERE WE ARE AT

ThermoWand Technologies is looking to raise \$1,500,000 to finish development and an initial product offering. The Company has spent 6 years and hundreds of thousands of dollars to develop and patent their technology. Tim Johnson, the company's co-founder and Chief Scientist, completed a Doctoral Thesis to develop infrared medical technology that expands the range and accuracy of infrared thermometers, field tested prototypes under Institute Review Board guidance and was awarded a US Patent for contributions to the science of temperature gathering using dynamic filtering. The company has completed an Evaluation Phase with Presco Engineering, a leading engineering, research and development firm in Connecticut and is now raising funds to have Presco Engineering build the first commercial version of ThermoWand expected in Q1 2022.

KEY HIGHLIGHTS

- Introducing the WORLD'S FIRST medical-grade, cell phone compatible Sensor Pack Thermometer attachment
- ThermoWand Sensor Pack available in iOS or Android are adaptable as handheld thermometers or stand-alone automated temperature monitor world's first and only hybrid handheld or monitor
- Medical grade readings can be taken from a distance of 3 feet meeting an FDA requirement of ±0.2°C accuracy for use with humans
- · Capable of taking continuous or periodic readings
- Respects social distancing protocols in a pandemic environment
- Mounted units remove people from the temperature gathering process
- Cloud based repository for temperature data collected worldwide
- US Patent 10,502,629 B2, Temperature Measurement by Infrared Analysis, December 16, 2019.
- Presco Engineering Design House and manufacturing relationship in place

INDUSTRY / OPPORTUNITY

- A legacy of the COVID pandemic is the regular and random temperature checks performed everywhere from airports to gymnasiums.
- The rising awareness about the importance of body temperature monitoring are major factors driving the market
- People everywhere make their first assumption about a disease based on thermometer readings
- The need for thermal screening at public places, offices, and hospitals has increased the demand for thermometers
- In addition, increasing health consciousness and rising patient awareness and self-heath care are among other major factors contributing to the market growth
- Consumers are looking for portable products, which are user-friendly and can also be easily adopted
- The vast majority of existing technologies do not meet FDA requirements and are in use with an exception allowance for the duration of the COVID19 pandemic. These inexpensive thermometers require a follow up confirmation reading with a Medical Grade Thermometer. ThermoWand is made to capture that confirmation reading.



ADDRESSABLE MARKET

- Addressable cell phone accessory market
- 40.8 million iPhones sold in 2019 with the number of users is expected to surpass 110 million by 2021 (Statistica, 2/2016)
- According to Statista, the mobile phone accessories market in the US was \$25.8 billion in 2018 and projected to grow to \$66.4 billion in 2025
- ThermoWand Sensor Pack, for use with Apple and Android is available for \$99. Every purchase comes with 6 months FREE of the Tide System
- OR, ThermoWand Sensor Pack is FREE with a 1 year subscription to the Tide System. Tide System monthly subscription price is yet to be determined
- ThermoWand Technologies will also have a online small catalogue of compatible products to enhance the automated use of ThermoWand.
 Such as, wall mounts, desk mounts, tripod mounts, dedicated blank cameras/white boards to work with Sensor Pack, etc



ThermoWand Sensor Pack is the World's 1st and Only Sensor Pack that can be used as a...

HAND HELD

Captures medical grade readings at a safe distance

Takes 300 readings per second with 2-3 seconds for final display

Plugs into smartphone; contains temperature sensor and communication capability; utilizes smartphone's processing and communication capability

\$129.00 MSRP

Includes: the Sensor Pack
3 months Free of TIDE Systems



STAND ALONE

Requires minimal human supervision – set it up and go

Takes 300 readings per second with 2-3 seconds for final display

Communicates via WiFi system providing alerts of a patient's temperature.

Can be wall mounted, desk or tripod mounted

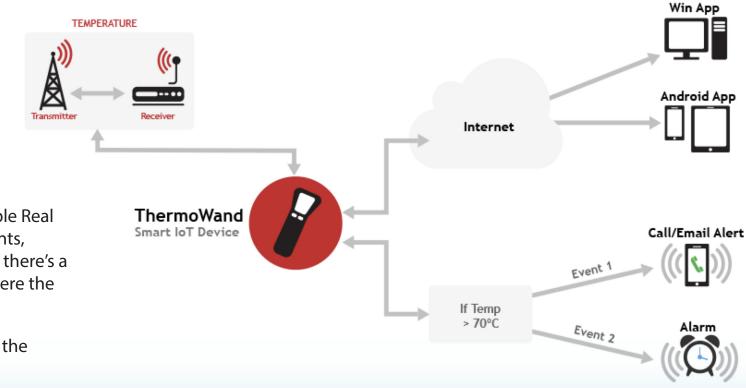
Sign Up for 2 years of the TIDE Systems Automation Package at \$14.95 per month and get the Sensor Pack FREE

- Sensors use
 an infrared
 temperature
 sensor, a
 distance
 ranging
 module LIDAR
 (optional),
 and a camera
- Consistent reliability
- Better than ±0.1°C which is double FDA requirements.

TIDE system

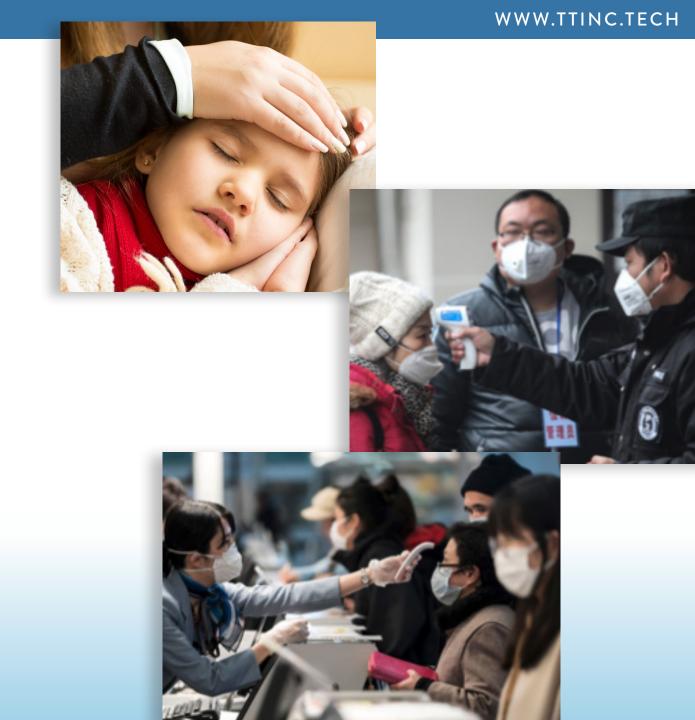
- The TIDE system is an optional feature.
- Readings can be saved and added to an ever-expanding TIDE database which will aid in the ongoing machine learning and AI analysis to constantly improve ThermoWand's accuracy and target acquisition capabilities.
- With widespread usage, the TIDE system will enable Real Time Dash boarding of individuals, groups, accounts, geographic locations, gender, and even species. If there's a COVID strain in Bulgaria it will be able to show where the hot spots are.
- Alarms of significant readings are sent directly to the caretaker for review and viewable on screen.
- TIDE delivers periodic system updates.
- Non-subscribers to the TIDE System will also be offered the upgrades

Temperature Integrated Data Environment system communicates between the device, target, operator and other databases



TARGET MARKET

- Factors of cost per unit and market expectations have lead us to Launch ThermoWand™ Sensor Pack, Direct-to-Consumer via the cell phone accessories market
- Patented technology gives the company a significant advantage in the expanding thermometer marketplace. Additionally, our sensor meets FDA requirements for use with humans, +/- 0.2 degrees C.
- Human Applications: Direct to Consumer (DTC)/Healthcare.
- Telemedicine/Homecare.
- Security/point of entry to buildings/venues.
- Animal Applications: Veterinarian /Livestock.
- Manufacturing processes.
- Licensing opportunities.
- ThermoWand™ Technologies has plans to launch into each sector
 with a specific product pipeline For example, the Healthcare version
 will be different than the Sensor Pack for DTC target and Livestock
 barnyard version will differ from the Security version



MARKET LAUNCH STRATEGY

- After months of collaboration with Presco Engineering and analyzing costs and market expectations, the company is focusing on the launch of the ThermoWand Sensor Pack, Direct to Consumer via the cell phone accessories market.
- The company will initially focus on the consumer accessory market through the app store, box stores, pharmacies and anywhere that sells phone accessories
- ThermoWand Sensor Pack will be searchable in the App Store using "thermometer" in conjunction with the TIDE an app.
- IMT's early version of the TIDE System can already capture and store readings, control the automation code, warehouse the data and upgrade and calibrate the device remotely
- When Sensor Pack shelf ready prototypes are available the Pre-sale for the Initial Production Run of 10,000 units begins.



 The Launch will consist of a multi pronged approach including public relations, a website that has our products for sale at MSRP with marketing support, formation of a 1099, straight commissioned Sales Force of 6-8 people in select cities across the US who can assist in direct to consumer sales themselves as well as helping to establish a Reseller network. For more details ask for our full Business Plan.

MANUFACTURING

After completing the ThermoWand
Strategic Assessment and Technical
Review, Presco's President Terry
Sauer wrote, "We think you have an
interesting project, and the direction of
heading to a smartphone sensor pack
reduces the overall scope, lowers the bill
of materials cost, and helps the product
feel familiar to a typical end user."

https://www.prescoinc.com/



- Entered partnership with Presco Engineering to build a shelf ready version of the ThermoWand technology.
- Established as a Connecticut corporation in 1978
- Electronics, software and mechanical engineering expertise
- Handle every aspect of purchasing, inventory control, incoming inspection, kitting, test, rework, burn-in, quality control and final inspection.
- Offer the flexibility to carry out rapid prototypes and small production runs in a cost effective manner, yet the ability to boost production volume dramatically

COMPETITORS

Kinsa Smart Thermometer

Kinsa uses a smart thermometer to gather data to help stop the spread of infectious illness by building a communication network that connects more than a million users with a free app, e-mail alerts, and wireless thermometer. Kinsa unfortunately uses an inexpensive infrared sensor.

Vicks Smart Temp

Vicks smart thermometer and app allows you to create individualized profiles to track temperatures for each family member.

Radiant Forehead

The Radiant Forehead is a non-contact thermometer (1 cm from forehead) which can keep track on temperatures via an app by connecting to an iPhones phone jack.

FLIR One Pro Thermal Camera

The FLIR turns an iPhone into a thermal camera which can take temperature readings from between -4°F and 752°F. It is primary a commercial camera used to inspect electrical panels, It is not permitted to be used for humans.

THERMOWAND SENSOR PACK ADVANTAGES

ThermoWand Sensor pack also has a Free App.

ThermoWand Sensor Pack turn your phone into a medical grade thermometer, they use a non medical grade thermometer in conjunction with their app.

ThermoWand Sensor Pack allows for Monitoring, they do not. (Maybe put it 1 time "larger" instead of 1 time each across from these 3 similar items.)

ThermoWand Sensor Pack is for use with Humans, Flir is not.

PATENTS

Thermo Wand® has

been awarded a US Patent #10502629 B2 in 2019 that extends the range of infrared thermometers readings from 2"-6" inches out to 3 feet with distance-dynamic filtering.

A second US Patent #11209316 B2 was issued in 2021 for the use of emissivity in the detecting of human core temperatures by infrared thermometry,



(12) United States Patent

(10) Patent No.: US 10,502,629 B2 (45) Date of Patent: Dec. 10, 2019

(54) TEMPERATURE MEASUREMENT BY INFRARED ANALYSIS

- (71) Applicant: Infrared Medical Technologies, LLC, Bellerose Village, NY (US)
- (72) Inventor: Timothy Johnson, New York, NY (US)
- (73) Assignee: Infrared Medical Technologies, LLC, Bellerose Village, NY (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 159 days.
- (21) Appl. No.: 15/675,235

G01J 5/02

- 22) Filed: Aug. 11, 2017
- 55) Prior Publication Data

US 2018/0045573 A1 Feb. 15, 2018 Related U.S. Application Data

(60) Provisional application No. 62/471,901, filed on Mar. 15, 2017, provisional application No. 62/374,700,

- 15, 2017, provisional application No. 62/374,700 filed on Aug. 12, 2016.
 (51) Int. Cl.
 G01J 5/00 (2006.01)

(2013.01); G01J 5/026 (2013.01); G01J 5/0265 (2013.01); (Continued)

(58) Field of Classification Search

CPC G01J 5/00; G01J 2005/0077; G01J 5/10; G01J 5/0025; G01J 5/025; G01J 5/0003; (Continued)

(2006.01)

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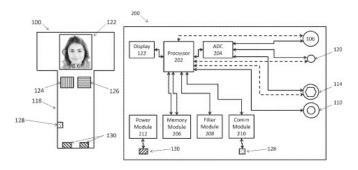
Primary Examiner — Gail Kaplan Verbitsky (74) Attorney, Agent, or Firm — Fish & Richardson P.C.

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57) ABSTRACT

A device for detecting infrared radiation emanating from a subject while not in physical contact with the subject. The device includes a body, an infrared sensor located in the body oriented to receive the infrared radiation and to generate at least one output that corresponds to the received infrared radiation, an analog to digital converter in communication with the infrared sensor to receive the at least one output, a processor in communication with the infrared sensor to process data received into a temperature associated with the subject, a memory module to store a first plurality of computed temperatures in a predetermined sequence; and a filter module to select a first maximum from among the first plurality of computed temperatures. A method of determining the temperature of a subject is also provided.

9 Claims, 4 Drawing Sheets





(12) United States Patent

(10) Patent No.: US 11,209,316 B2 (45) Date of Patent: Dec. 28, 2021

(54) TEMPERATURE MEASUREMENT BY INFRARED ANALYSIS

(71) Applicant: Infrared Medical Technologies LLC, Bellerose Village, NY (US)

(72) Inventor: Timothy Johnson, New York, NY (US)

(73) Assignce: Thermowand Technologies, Inc., New York, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 30 days.

(21) Appl. No.: 16/678,235

(22) Filed: Nov. 8, 2019

(65) Prior Publication Data
US 2020/0088584 A1 Mar. 19, 2020

Related U.S. Application Data

(63) Continuation-in-part of application No. 15/675,235, filed on Aug. 11, 2017, now Pat. No. 10,502,629. (Continued)

(51) Int. Cl.

G01J 5/00 (2006.01)

G01J 5/02 (2006.01)

G01J 5/02 (2006.01)

(56) References Cited

U.S. PATENT DOCUMENTS

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PCT International Preliminary Report on Parentability in International Applin. No. PCT/US2017/046549, dated Feb. 12, 2019, 10

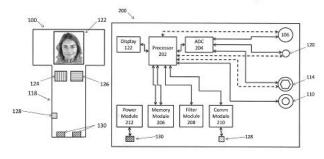
(Continued)

Primary Examiner — Gail Kaplan Verbitsky (74) Attorney, Agent, or Firm — Brian M. Gaff, Esq.

7) ABSTRACT

A method of determining a temperature of a subject while not in physical contact with the subject. The method includes providing an infrared sensor oriented to receive the infrared radiation emanating from a subject and to generate a least one output into a computed temperature of the subject, adjusting the computed temperature of the subject, adjusting the computer temperature based on an emissivity of the subject, the emissivity determined at least in part by a luminance value based at least in part on an image of the subject providing a memory module to store a first plurality of computed temperatures in a predetermined sequence, and selecting a first maximum from among the first plurality of computed temperatures. A display is provided to display the temperature of the subject.

3 Claims, 5 Drawing Sheets



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EMISSIVITY

What is emissivity?

In the image seen, let's suppose everyone had exactly the same temperature. Current infrared thermometers would read seven different temperature values because the skin surface temperature radiates (or emits) slightly different (by 3%) heat amounts from their bodies due to their varying skin tones. Our infrared thermometer corrects for core temperature and it would read This is everyone with the same temperature scientifically based on the Stefan Boltzmann equation for heat using infrared thermometers...



NOTE: for TTnc, core temperature refers to the heat signature from facial temperature scans that is block from radiation by skin tones.

MANAGEMENT

DAVID N. JOHNSON

CO-FOUNDER

David has over 20 years of National Award winning sales experience in the healthcare sector with several years in the health insurance industry and then embarking into the pharmaceutical industry 20 years ago. David has successfully launched products in both industries, from rolling out HIP health insurance's 1st Medicare D program as well as 4 product launches in pharmaceuticals. David holds a BA in English from King's College as well as a MS in Marketing from NYU.

LINKED IN

DR. TIMOTHY JOHNSON CHIEF SCIENTIST/COFOUNDER

Holds an MSEE from New York Institute of Technology and is a registered Professional Engineer in Massachusetts. He has taught fifteen years at Wentworth Institute of Technology in their Electrical Engineering department as an Associate Professor. In 2019, completed a Doctor of Professional Studies in Computers at Pace University defending a dissertation on Improving Infrared Sensor Temperature Readings using Machine Analysis of Emissivity. He is listed as an Investigator with the National Institute of Health.

LINKED IN

Drury Gallagher

BUSINESS ADVISER/EXEC BOARD MEMBER

Biography is linked HERE

DR. ROBERT YOUNG

EXECUTIVE BOARD MEMBER

Bob received a Ph.D. in Marine Geology (MIT-Woods Hole Oceanographic Joint Program) in 1975) and joined NOAA's Atlantic Oceanographic and Meteorological Labs where he carried out research programs on sediment transport in the offshore US and internationally. In 1982 he joined Exxon's Production Research Company where he did research in seafloor stability at drilling platform sites and carried out a variety of international projects to analyze the geology of potential reservoirs

LIINKED IN

USE OF PROCEEDS

	USE OF PROCEEDS				
Date: 9/27/2021					
EXPEDITURES		Year 1		Year 2	
Product Development					
Presco Engineering, Phase 1 development			700,000		
Electrical emissions testing: FCC and CE approvals				\$	100,000
FDA approval				\$	150,000
OPERATIONAL COSTS					
Office rent		\$	12,000	\$	12,000
office supplies, web domain, s	oftware fees	\$	13,000	\$	10,000
Discretionary funds		\$	25,000	\$	25,000
MARKETING					
Crowdfunding mgr, internet m	ktg, fundraising				
event fees, PR firm, freelance marketers		\$	24,000	\$	24,000
LEGAL/ACC'T					
Corporate lawyer, G. Adler		\$	20,000	\$	10,000
Consultants fees		\$	100,000	\$	25,000
S1 registration		\$	50,000		
SALARIES					
Dr. Tim Johnson		\$	60,000	\$	60,000
Board stipends		\$	40,000	\$	40,000
	V 4 l		4.044.000		
	Year 1 total:	\$	1,044,000	ć	455.000
	Year 2 total:			\$	456,000
	Total Raise:	\$	1,500,000		

FINANCIALS

Free Cash Flow	1	2	3	4	5
EBIT	-\$1,620,215	-\$3,436,536	-\$2,118,256	\$1,652,502	\$10,812,625
Less: Taxes on EBIT	\$0	\$0	\$0	\$247,875	\$1,621,894
Net Operating Profit After Taxes (NOPAT	-\$1,620,215	-\$3,436,536	-\$2,118,256	\$1,404,627	\$9,190,731
Plus: Depreciation/Amortization	\$0	\$0	\$0	\$0	\$0
+/- Changes in Working Capital	-\$243,750	-\$1,575,000	\$843,750	-\$202,500	\$1,050,750
Less: Capex	\$0	\$0	\$0	\$0	\$0
Unlevered Free Cash Flow	-\$1,863,965	-\$5,011,536	-\$1,274,506	\$1,202,127	\$10,241,481
DCF Enterprise Value Calculation		_			
Terminal Value Calculation		_			
Terminal Value Growth Rate	5.0%				
Projected Free Cash Flow	\$10,753,555				
Discount Rate	25.0%				
Terminal Enterprise Value	\$53,767,776				
Implied Term. Value EBITDA Multiple	5.0x				
Discounted Cash Flows at WACC					
Unlevered Free Cash Flow	-\$1,491,172	-\$3,207,383	-\$652,547	\$492,391	\$3,355,929
Terminal Value					\$17,618,625
Total Discounted Cash Flows	-\$1,491,172	-\$3,207,383	-\$652,547	\$492,391	\$20,974,553
DCF Enterprise Value	\$16,115,843				
Less: Net Debt					
Equity Value	\$16,115,843				

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World's 1st Sensor Pack that turns any phone into a medical grade thermometer or monitor

Dr. Timothy M. Johnson

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More information at www.ttinc.tech