

Spotwand™

Monitoring and Control System for Virus Detection in Public Transportation

Background

Problem

Crowded public environment is # 1 coefficient for virus infection

Two of the main symptoms of a viral infection are:

- An abnormal body temperature.
- Coughing identified as virus related.

Currently there are a few types of temperature measurements:

- Manual thermometer
- Manual screening using thermal cameras
- Automatic screening for body temperature

Only doctors' are able to check for coughing virus type

Market

Corona virus detection and alert system installed in **Public transportation entries** bus/train/plane or any other vehicle



- **TouchWand** is introducing **SpotWand™**
The only fully functional system that automatically measures the person's body temperature while moving, and detects coughing virus oriented sounds upon occurrence

Body Temperature Measurement



Personal Measurement - Temperature	Automated measurement - Temperature
High risk exposure to infection	Contact free – safety fully automated
Low accuracy – Unskilled operators	High accuracy with self calibration
Low capacity detection – only 1 person at a time	Efficient, reliable check for multiple persons
Scanning is time consuming – >3sec / check	Continuous check for moving Persons
Single data information	Each person's temperature data can be monitored over time and over multiple locations
Ongoing cost of dedicated operator	1 week ROI

Two main symptoms of a viral infection

- **Abnormal body temperature (Abnormal >37.4°c)**
- **Defined voice of a person's cough**



Spotwand™ Competitive Edge



Type	SpotWand™
Real time Accurate identification of crowded moving objects	Very High (inc' emissivity, gender & race factors)
Installation in public transportation vehicles	Yes
Cost	< 500\$
2 nd level test Cough recognition	Yes
Installation in public transportation vehicles	Yes
Infrastructure	No need – Plug & Play
Cloud multi site AI and deep learning of accumulated data	Yes
Stand alone + cloud connection	Yes
Tracking & Tagging accumulated data	Yes
Trigger and control electric actions	Yes
Temperature test	Yes

StopWand™

The only system in the world that detects and notifies for virus detection in public transportation vehicles entries

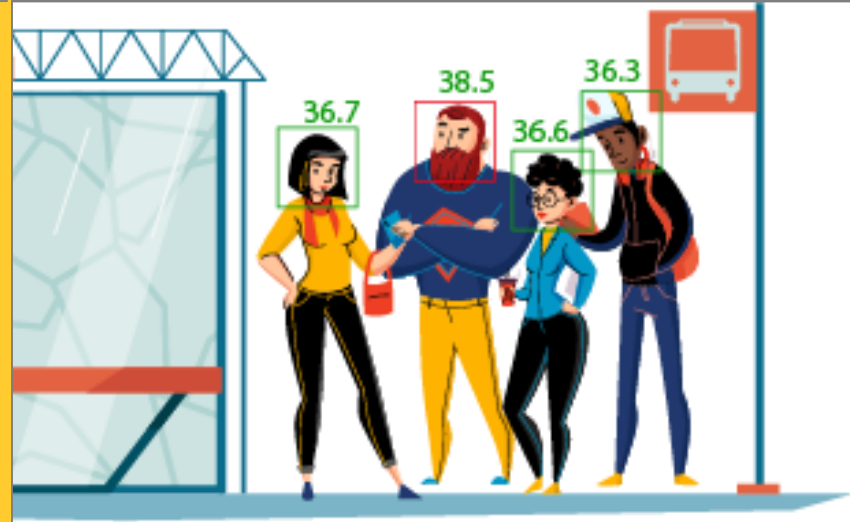
Roadmap

- Prototype ready – 6-8 weeks
- First 100K systems within 16 weeks
- 1M systems available before next winter





Monitor & Control Virus Symptom (illustration)





Monitor & Control Virus Symptom (illustration)



Monitor & Control Virus Symptom



Two levels of detection

Level 1:

- Integrate and calibrate thermal camera with regular camera for face segmentation and and neutralization of obstacles.
- Collect, process and analyze temperature data for crowded moving population using integrated control unit with emissivity, face & gender deciphering algorithm.
- Real time Identification, notification and triggering of abnormal body temperature.

Level 2:

- Integrated with a set of microphones located in any desired space in the vehicle to indicate voice symptoms (**cough**) to enable a secondary circle of identification and alerting for temperature check.

Continuous Ongoing Tracking

Data is transferred to cloud from **multiple vehicles entries and locations** to enable AI and Deep Learning of multiple points of collected data for ongoing continuous improvement, tracking, monitoring and OTA update install base at all public transportation vehicles



Why Spotwand™ for Public Transportation



- Real time reliable and accurate diagnostics, on the fly with No need for the person to stand and face a test point.
- Compact Low voltage & power consumption to be installed as part of the vehicle
- Built in vibrate absorption
- Auto exposure time with HDR capabilities
- Stand alone diagnostics no need to connect to cloud
- Wide Ambient temperature for variety climate environments
- Identify and detect abnormal in crowded population
- Fully automated 2 Levels of identification.
- Support identification in multi entries vehicle
- Multiple factors detection (Temperature, Voice, future video & audio based detection abilities).
- Identification using algorithms for Emissivity, Race & Gender deciphering.
- Best price-performance



TouchWand - Background



- TouchWand (“TW”) Established in 2016
- Specializes in development, manufacturing and selling of home and office automation systems as well as Building management systems - IoT
- Company has several patents in USA and Israel
- Unique added value:
 - Simple installation & operation
 - No need for a special infrastructure – suitable for retrofit deployment
 - Easy interface with other peripheral and legacy systems
- 1000s of full systems installed and in the last 2 years in homes, offices and organizations in Israel

