

From the Desk of the President

Sentinel Sensor and Post Covid Updates

During the past years of this decade the business world has been faced with challenges never seen in our history. The Covid19 pandemic created panic and situations that changed the entire way businesses operated in this country. Business entities in this country took two approaches to the issues:

1. Some chose to play it close to the vest and hang on for dear life to try to get through the valley of the multitude of issues that had to be addressed as a new approach to business was needed. We now see many of those that stopped aggressively planning for the future when the nation came out of this very difficult period have failed and are no longer in business.
2. Others who have been through recessions and other difficult time recognized that it was not a time to become complacent, but a time to devote any excess resources to preparing for the future when the country returned to a semblance of normality. We are recognizing that new regulations are going to be put into place and New Era will be ready for them.

We at New Era Technology, Inc. chose the latter and have prepared and are continuing to prepare for the future by using available time and resources to the best advantage.

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From the Desk of the President

Sentinel Sensor and Post Covid Updates

During this time, we have, continued to develop our capabilities with:

- a. Sentinel Sensor for leak indications. In this newsletter is a report on the latest development in the testing and certification of this sensor at the METEC testing organization.
- b. Additional sensors are in various stages of construction.
- c. The upgrading of our aircraft fleet with the addition of two more aircrafts and currently looking at the third aircraft to be added.
- d. Adding additional pilots hired to use this time for extensive training so we are prepared as our business expands.
- e. Adding additional GIS specialists for analysis
- f. Adding aircraft maintenance personnel to assure that our aircrafts are kept in pristine mechanical condition to go along with the new paint schemes on the aircraft.
- g. Continued upgrading of our navigation system for calculation of the most efficient flight path while on survey to reduces delays.
- h. Enhancements to our reporting system to provide our clients with the most complete information on surveys raising the industry standard.
- i. A new location at Fort Worth Spinks has been added and a further location in Texas is being reviewed at this present time.

In this edition of the newsletter, we are focusing on the testing of the latest Sentinel Sensor at METEC and the excellent results of that testing. In future editions we will focus on the other elements of our company that allow us to exceed expectations.

ORIGINS OF THE SENTINEL TECHNOLOGY

The Sentinel Sensor development was completed in 2021 with knowledge and experience learned from New Era Technology Inc. of Boardman OH and Synodon Inc. of Edmonton, Alberta, Canada.

ABOUT THE SENTINEL TECHNOLOGIES

Route Planning & SANDS: Navigation

Our Sentinel technology provides cutting-edge proprietary flight routing of a survey which in turn also greatly reduces flight time and surveying costs. At, New Era Technology, Inc. we employ a software package known as the Sentinel Route Planner (SRP).

At the heart of the Sentinel Technologies is the SANDS (Sentinel Airborne Navigation and Data System) survey navigation system. SANDS provides real-time information to a pilot (and an operator) in an aircraft. Including but not limited to the location of the aircraft relative to the survey segments they are flying over. Simultaneously, SANDS operates and stores data from a number of ancillary instruments including and "INS" (Inertial Navigation System,) cameras, and other sensors. For nadir-viewing (downward) sensors & cameras, SANDS presents to the pilot the location of the sensor's field-of-view ("FOV,") on the ground.

The SANDS offers Imaging and Visual systems integration that has the ability to send real-time emergency reports. This can be done easily and effortlessly by hitting the "RPT" button. This will immediately send us at New Era Technology, Inc. office, a report form with details entered by then operator and images taken during the flight allowing New Era Technology, Inc. to forward the emergency report to the client in essentially real-time.

SANDS Sensing

The SANDS Sensing system is the combination of a SANDS Imaging system with a proprietary methane gas remote sensing instrument, the "Sentinel." Sentinel is a nadir-viewing sensor which provides geo-located images of the presence of methane in the "FOV."

SENTINEL SENSOR & SYSTEMS

New Era employs the patented Sentinel Sensor for locating leak indications on natural gas transmission lines and gathering systems. This system coupled with SANDS navigation offers significant benefits over other known and even well trusted methods of leak indication.

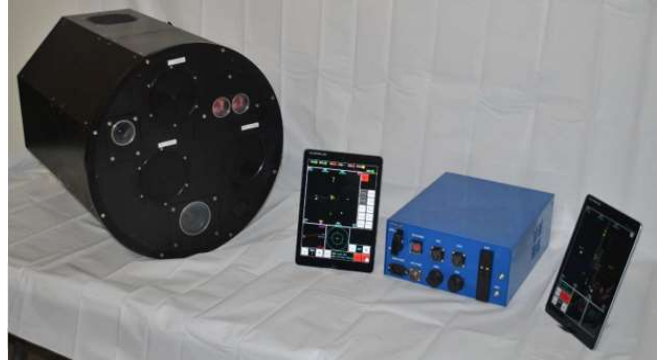
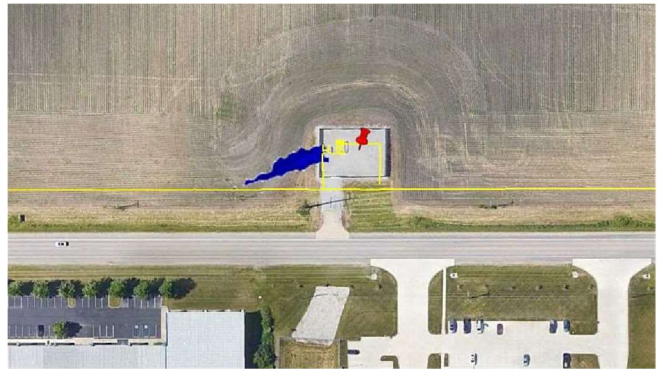


Photo of SANDS Sensing instrument, showing the SANDS Navigation system (blue box & tablets, and the Sentinel Sensor.



A methane fugitive emission indication overlaid on a satellite image



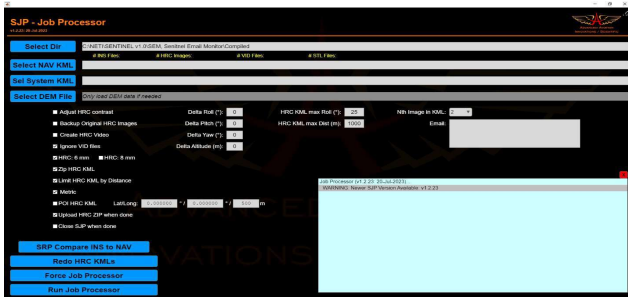
SANDS imaging geo-located high-resolution image.

The Sentinel Sensor has the ability to run without having to rely on temperature of gas or vapors and not having to pass through them either. It can provide accurate geo-locations of the plume with accurate flight path data with position, altitude, and attitude data.

SENTINEL REPORTING

SENTINEL JOB PROCESSOR "SJP"

After each flight, data from the SANDS system is run through a "job processor," which collects and stores the data from each image and frame into a searchable database. This software will output from this code all information which may include KMLs of flight track/ground track, overlays of high-resolution imagery, & Sentinel gas data ready for post-flight review. Further it also reviews the coverage of the survey looking for missed segments. Below is a photo of the "SJP" software.

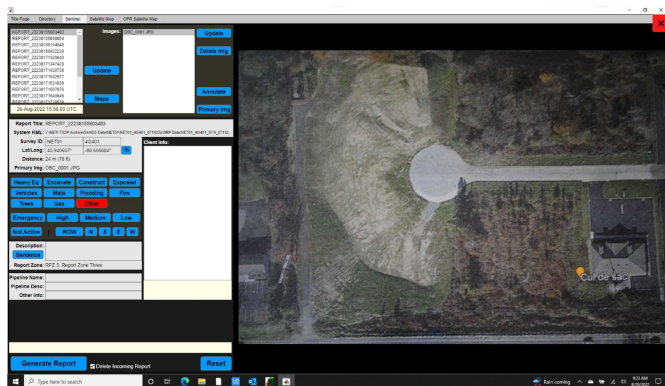


SENTINEL SIGNAL PROCESSOR "SSP"

SSP is a software which processes and geo-locates the Sentinel gas-sensor data. It outputs KMLs of gas signal for review by an operator qualified GIS analyst.

SIVER: Imaging, Visual, & Electronic Reporter

After the image and gas data has been reviewed by analysts & client reports generated of anomalies in the data that were created, using our SIVER report generator. This PDF report details the anomaly including the type, location, description, and images. Each report is then loaded into the "TSSP" database for review and dissemination to the clients. Below is a photo of our SIVER software.



TSSP4: Terrain Surveillance & Security Program

"TSSP" or (Terrain Surveillance & Security Program,) is a secure online archive for reports from current and past surveys. Clients can review and interact with all anomaly reports created from past surveys. When a report is generated by SIVER, it is first reviewed by a certified auditor to ensure that there are no mistakes. It is then released and is available to the client to view. "TSSP" is also capable of generating final reports for entire surveys. Below are two photos showcasing our TSSP4 software.

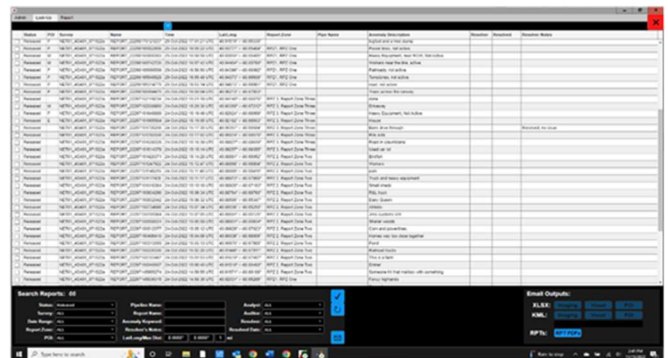


Figure 2-10: Screenshot of the Reports Table tab from the TSSP4 software.

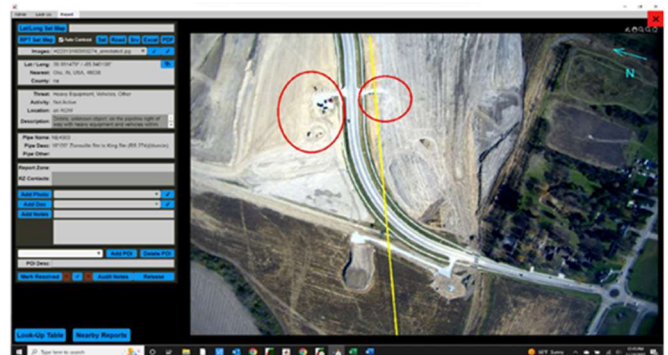
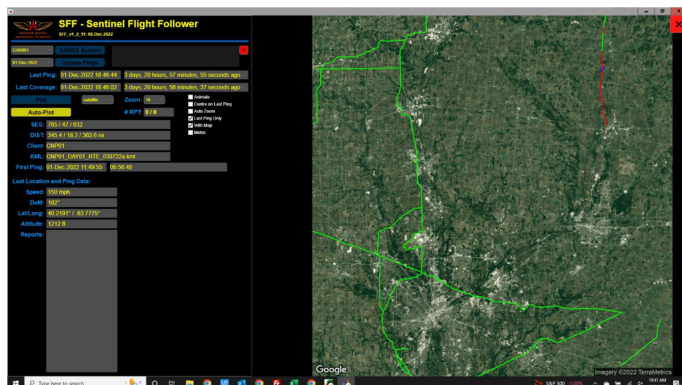


Figure 2-11: Screenshot of the Report info tab from the TSSP4 software.

SENTINEL FLIGHT MONITOR AND FOLLOWER

The Sentinel Flight Monitor or "SFM" is a code which runs during a survey listening for location and coverage pings coming from the SANDS systems in the field. It also watches and initiates reporting of in-flight emergency reports coming from the survey. This ensures we are able through the use of all these technologies to provide the best and most accurate client experience.

Sentinel Flight Follower or "SFF" is a secure online portal for the client to watch in near real-time progress our Sentinel aircraft performing a survey. It provides information about the progress along the survey route, tracking, coverage, and in-filed reporting. Below you will see a photo of the "SFF" software.



SENTINEL GAS SENSING

New Era Technology, Inc.'s, Sentinel Gas Sensing instrument is a 3rd generation sensor developed based in a remote sensing technology known as Gas-Filter Correlation Radiometry or "GFCR." Sentinel is an imaging version of a "GFCR" known as a Simultaneous View Correlation Radiometer or "SVCR."

Testing results of our Sentinel were all validated August 17th of 2023. These validated tests were corroborated and performed at the CSU's (Colorado State University) METEC (Methane Emissions Technology Evaluation Center) facility in Fort Collins, CO. All these tests were performed in field conditions (in flight, at survey speed and altitude) and not in a static controlled laboratory setting.

For more details or to see how New Era Technology, Inc. can serve your aerial needs please contact us today!

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Waco, Texas (KACT)

FUTURE NEWSLETTERS

Issue Dates:

January, April, July and October

AIRCRAFT MODELS

Cessna 206

Cessna 182

Cessna 182T

Cessna 172XP



New Era Technology, Inc. - Plane N982SF