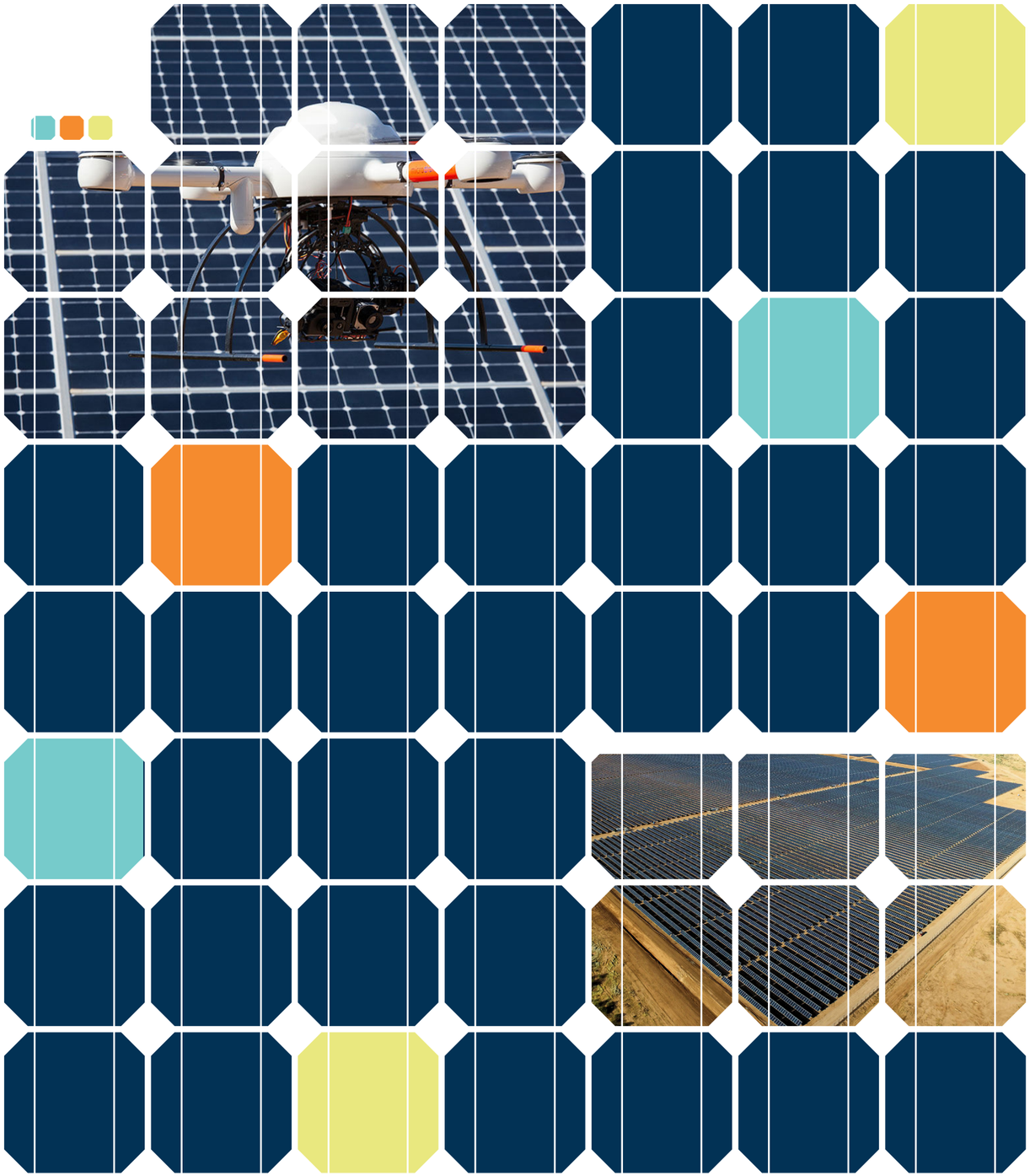

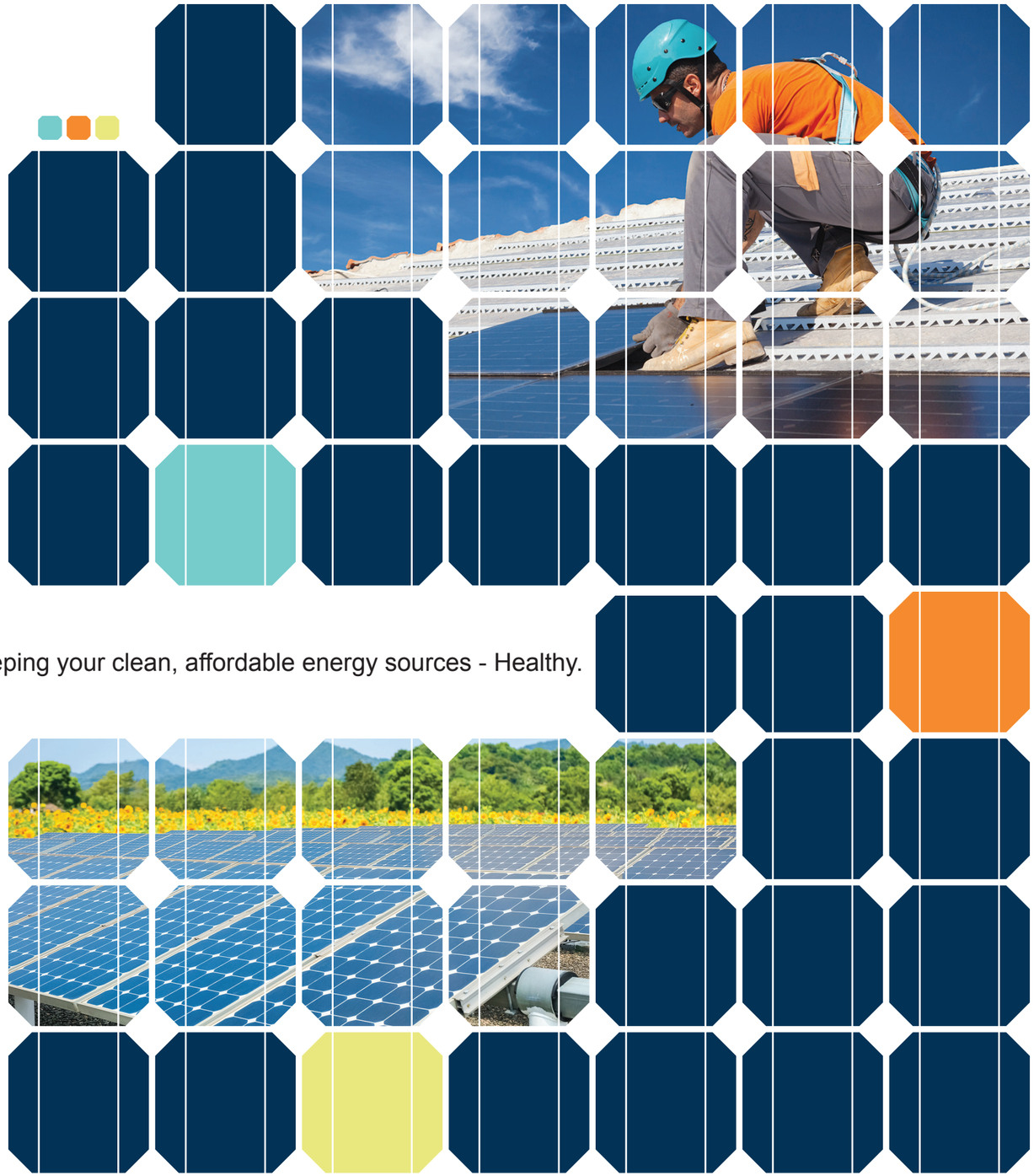

Keeping your clean, affordable energy sources - Healthy.

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INDUSTRIAL AEROBOTICS

System Uptime + Peak Production = MAXIMUM ROI

Solar generation has become the GO-TO green energy source. Solar systems are designed to provide clean energy for 25 years or more. To ensure investment in these systems are realized, they must be installed properly and continuously maintained.

SAFETY AT THE FOREFRONT

To maintain quality control and safety standards, it is important that only qualified personnel work on PV installations. Our crews are continuously trained for and have vast experience in working around energized power infrastructure. Our crews include a minimum of 2 person teams and can be as large as 5 depending on the specific site conditions and inspection activities to be performed.

Using aerial inspection methods allow companies to reduce instances where their employees are required to come in direct contact with energized equipment reducing the likelihood of incurring OSHA related accidents and follow-up costs.

COMMISSIONING

"Turning the Lights On" for a new solar plant is a critical, time consuming and expensive endeavor. Commissioning a solar plant is a comprehensive verification process designed to ensure an installed site meets or exceeds its engineering plans and PPA's. Commissioning is performed prior to initial operation and throughout many stages of the long-term operation of the plant. We assist in the EPC commissioning process by quickly, safely and cost effectively pinpointing components throughout the site that are not performing at all, or may be under performing due to improper installation of defects in materials.

SOLAR FACILITY LONGEVITY

Once a PV solar system has been installed and certified to be working at ideal capacity, you need to ensure it stays that way. We assist in maintaining large scale PV solar systems from an asset manager and owners point of view. By regularly inspecting failed and under performing panels and strings, we allow the plant operations staff to quickly know where issues exist and plan steps to correct in order to minimize the potential revenue loss.

ACTIONABLE DATA AND RECORDING

Through our robust and detailed reporting structure you will be able to quickly asses and prioritize areas to be addressed immediately, at the next maintenance window or plan to re-inspect at a future date for worsening conditions. In addition to identifying issues with the site, aerial optical and thermal imagery is saved and can be used within the organization for other valuable uses.

INDUSTRIAL AEROBOTICS

ACCURATE - FAST - SAFE - ECONOMICAL

By utilizing Unmanned Aerial Vehicles (UAV's) for inspections we can quickly and safely operate above a location gathering imagery to be actively viewed, processed or stored for later review, analysis and reporting. Using aerial robots also allows us to repeat the exact same inspections time and time again allowing easily identifiable trends in site and component performance.

"the inspections pay for themselves - they allow us to minimize lost revenue by identifying and addressing issues much sooner than traditional methods"

DRONE AS A SERVICE (DAAS)

Industrial Aerobotics primary business model as a DAAS provider is to provide clients actionable data to be used in making business decisions to improve or sustain their business operations.

Managing UAV's and drone flight operations is a specialized, involved endeavor. Vehicle design and maintenance, Payload configuration and operation, FAA coordination and approval, image handling and processing are just a few of the non-value add costs that can be avoided by using a DAAS provider and increasing your ROI.

Technology to the rescue!

LET TECHNOLOGY INCREASE SAFETY AND SAVE YOU $$$

Leverage the technological advantage of Unmanned Aircraft Systems (UAS) to provide you actionable data on the health of your solar asset in a more safe and economical manner than traditional "clamp-on" methods.

1. **HIGH-RESOLUTION THERMAL IMAGING**
   UAV inspections allow for a more detailed, higher-resolution product than traditional manned aircraft flights. LOW and SLOW allows for accurate, crisp, centimeter/pixel images.

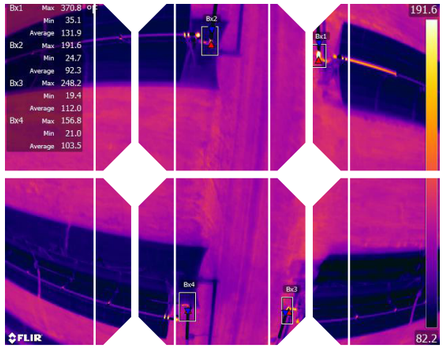
2. **GEO-REFERENCED / ORTHORECTIFIED MOSAICS**
   Our UAV's capture Geo-tagged, side-by-side EO/IR images. This allows us to deliver a seamless, thermal and optical; HIGH-RESOLUTION image of the entire solar site. This allows for precise and expedient reporting in both OPTICAL and THERMAL layers.

3. **CUSTOMIZED REPORTS**
   Over-capturing thermal and optical data while airborne allow us endless options for providing your organization the exact data product and report format you need to asses and plan for needed repairs.

REPEATABLE

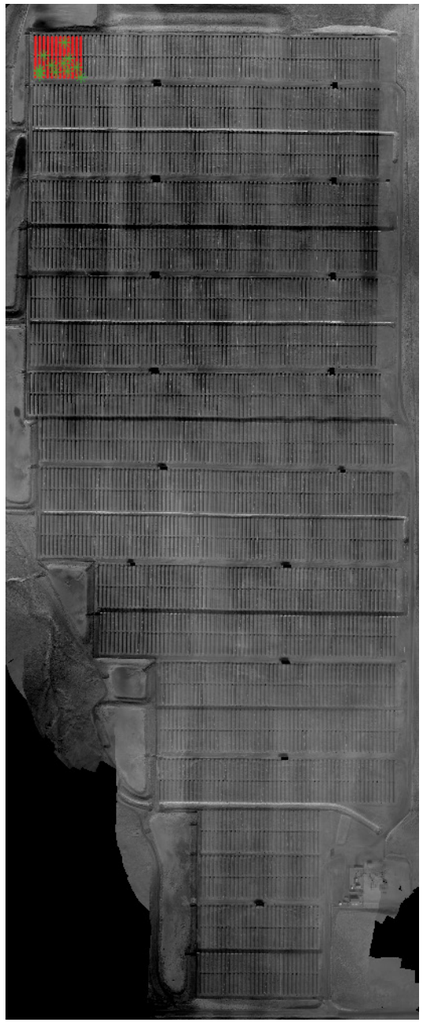
Year-over-Year Delta

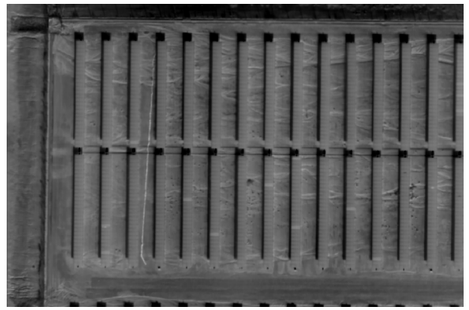
Utilizing pre-programmed UAV flight routines allow us to repeatably inspect assets in the exact same manner as previous inspections. When done in this manner, it is an extremely powerful visualization of the trending state of assets. Has a hot-spot spread or drastically increased in temperature? Did that string-interconnect anomaly get properly addressed after the previous inspection?

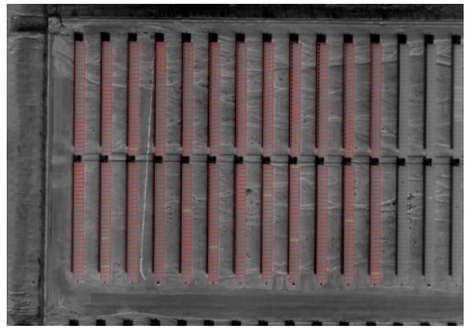


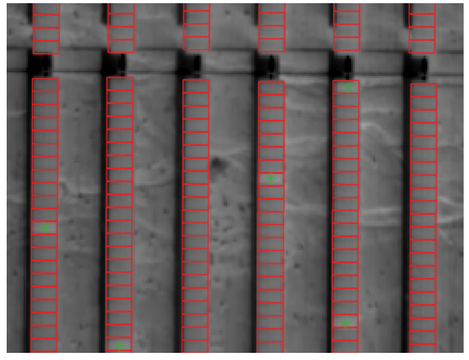
Reports in Industry Standard GIS Formats

Sub-section of 2000 Acre PV Site
@ 6cm GSD
Orthomosaic Radiometric GEOTIFF







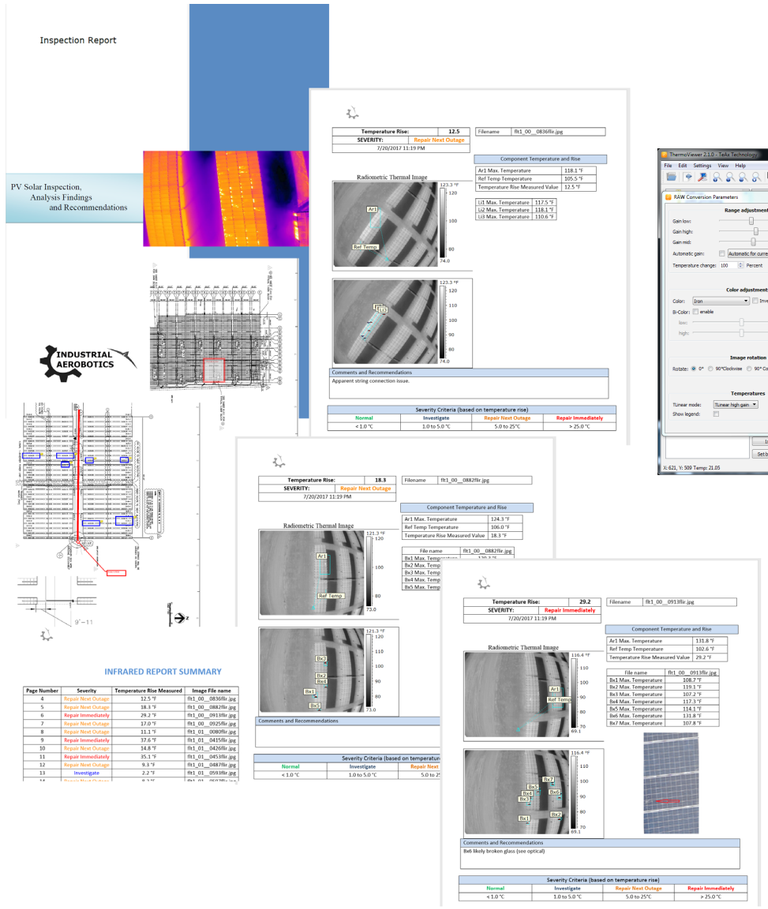


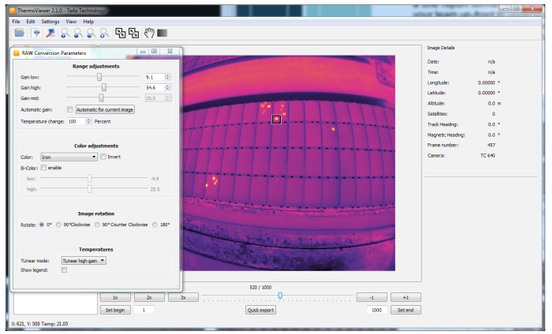
INDUSTRIAL AEROBOTICS

There are other companies that can fly your sites and capture RAW data, but very few can deliver truly Actionable Data saving your staff from the tedious work of data analysis.

CUSTOM DESIGNED REPORTING TO MEET YOUR NEEDS:

No two organization have the same data analysis needs, so why would a one report format work for all? At Industrial Aerobotics we work with your team up-front to understand their end goals for the inspection data and ensure the flights, sensors and data reporting formats provide the best fit to make you successful.





LET US HELP!

With over 5 years of experience in UAV Solar Inspections, hundreds of flight hours and the most advanced equipment and post processing tools - Industrial Aerobotics can help you quickly, safely and cost effectively understand the operational state of your assets so you can make the best decisions to keep it operating at the highest level.

Site Asset and Anomaly Metadata

stdev	min	max	range	block	row	n	h
161.1523210301...	7491.000000000...	8098.000000000...	607.0000000000...	A	2	15	N
195.9329198134...	7370.000000000...	7996.000000000...	626.0000000000...	A	4	3	N
79.68620984516...	7381.000000000...	7689.000000000...	308.0000000000...	A	4	10	S
192.7828904838...	7416.000000000...	8104.000000000...	688.0000000000...	A	2	15	S
154.8114123753...	7489.000000000...	7968.000000000...	479.0000000000...	B	2	2	N
59.48342393200...	7459.000000000...	7679.000000000...	220.0000000000...	B	2	1	N
184.8152076533...	7405.000000000...	8056.000000000...	651.0000000000...	B	2	1	S
38.41414054448...	7341.000000000...	7484.000000000...	143.0000000000...	B	1	10	S

INDUSTRIAL AEROBOTICS

P.O. BOX 11034
GLENDALE, AZ 85318
602.842.2723

info@industrialaerobotics.com
www.industrialaerobotics.com