AEGIS IoT

Industrial Thermography Solutions

Product Overview

AEGIS IoT Enterprise Suite

Retail & Supermarkets

Residential

Manufacturing

AEGIS IoT

Food Production & Manufacturing

HVACR

Asset Management

Data Center

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Keep your assets safe with **AEGIS** IoT Industrial Thermography Solution

Assets Protection

Detects abnormal temperatures and intruders, enhancing asset protection with proactive responses.

Assets Visibility

Enhances asset visibility by detecting abnormal temperatures and intruders, allowing proactive protection measures.

Assets Accountability

Enhances assets accountability by detecting equipment abnormalities and intruders, enabling quick responses to potential threats.

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

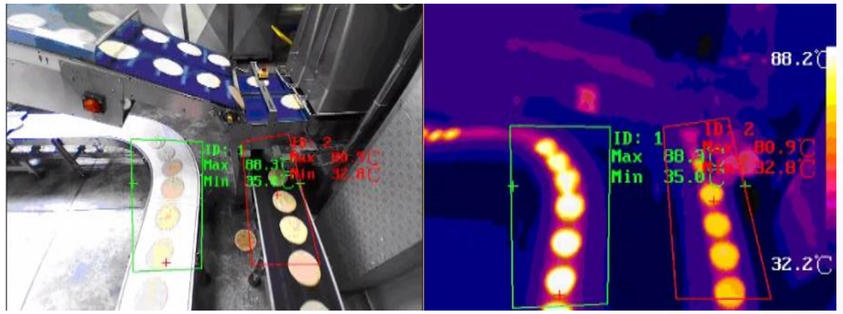
What is INDUSTRIAL THERMOGRAPHY?

Leverage **thermal imaging** to scan and visualize the **temperature distribution of the surface** of target objects **without contact**, making it possible to do image analysis and draw conclusions about the properties and condition of the target objects.

Industrial thermography is of great significance in preventive maintenance as well as in production monitoring.

Preventive Maintenance

Industrial thermography is a valuable technique for detecting loose or corroded connections, load imbalances and overloads, which are the reasons for a temperature rise in equipment or machinery.



Product Quality Control

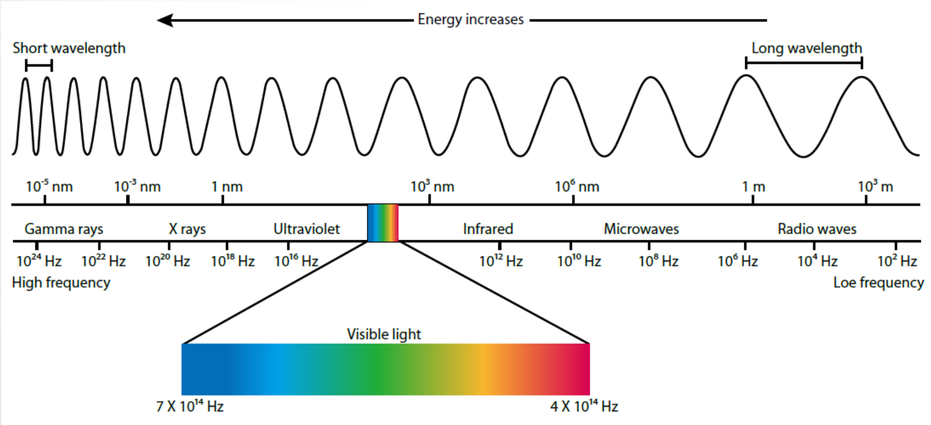
Industrial thermography can detect the temperature change on the surface of extremely hot or cold, voltage-carrying and inaccessible objects, so that products with cracks, flaws and other faults can be sorted out at early stage.

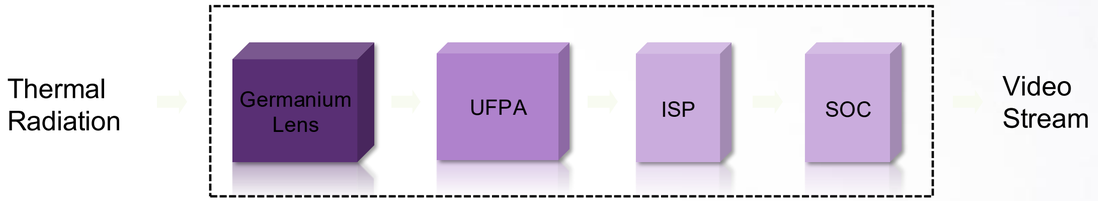
Phone: +603 5887 0624
E-Mail: sales@springtech.ai

Basic Technological Principle

Infrared Radiation

Each type of radiation has a unique wavelength. Any object with a temperature above absolute zero can emit a detectable amount of infrared radiation. The higher an object's temperature, the more infrared radiation is emitted.





Thermal Imaging Camera

While invisible to human eyes, thermal imaging cameras detect this kind of radiation (from wavelength 8 to 14μm, or 8,000 – 14,000 nm) and produce images using temperature differences.

Phone: +603 5887 0624
E-Mail: sales@springtech.ai

Solution Highlight

1. Online, 24-hour, real-time alarm, strong environmental adaptability .

2. Non-contact temperature measurement, not affect the normal working of monitor target.

3. Visualized temperature measurement, help double-checking problem and improve problem solving efficiency.

4. Flexible measurement rules and high temperature/low temperature/temperature difference alarms, help in more sensing methods.

5. View powerful analytics and assets status via **AEGIS IoT** Analytics

AEGIS IoT IoT

IOT-THERMAL-100

AEGIS IoT Analytics

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

The Benefits of Industrial Thermography Applications

Improve Productivity

Routine → **Real Time**

- Identify problems early by 24/7 real time monitoring, allowing them to be corrected before failure happens.

Increase Efficiency

Paper → **Digitization**

- Gain insights of assets, improve maintenance plan by analysis of stored images and data

Reduce Risks

Onsite → **Remote**

- Reduce the need for site visit, lower personnel safety risks and travel cost.

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Accurate Measurement, Intuitive Interface, Easy Integration

Accurate Temperature Measurement

- 24/7 real time monitoring with great stability, clear imaging and high accuracy — up to ±2 ℃ or ±2%.
- Multiple temperature measurement rules, including point, line, and frame measurements. Users can select rules for various scenarios to reach maximum accuracy.

Intuitive User Interface for Central Management

- Professional software based on HikCentral for temperature analysis in control center.
- Allows users to set up measurement rules, displays results visually, and provides historical reports.

Easy Integration with Inspection Solution

- Incorporate thermal imaging into intelligent inspection solution.
- For instance, the system could be integrated as an essential part of user's routine inspection and asset management.

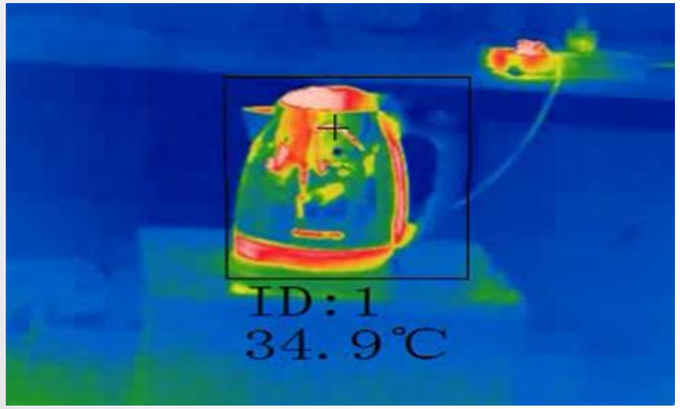
AEGIS IoT

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Accurate Temperature Measurement

High Accuracy



Establish a temperature measurement model through strict calibration and testing, which offers wide measurement range (-20 ~ 550° C) with high accuracy (up to ± 2° C or ± 2%).

Visualization

Heat distribution could be displayed clearly on the image, which gives an quick overview of the entire object and makes it easy to analyze the image and diagnose the defect.

Flexible Rules

Full screen temperature difference comparison, flexible rule settings (point, line, and frame-based). Users can select rules for various scenarios to reach maximum accuracy.

AEGIS IoT

Phone: +603 5887 0624

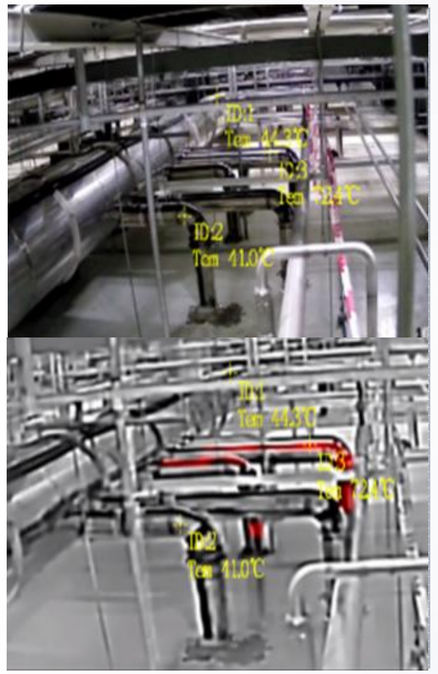
E-Mail: sales@springtech.ai

Thermographic cube cameras are suitable for the scenarios require accurate temperature measurement in narrow space or short distance. Customer may need temperature data more than thermal image.

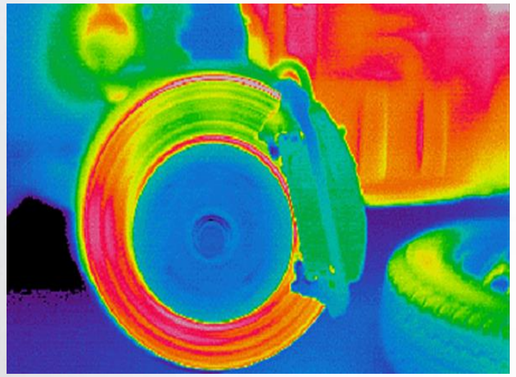
Electrical Cabinet

Datacenter

Manufacturing
Process Control



Industrial Core
Facilities



Motor Monitoring

Motor becomes overheat before failure occurs

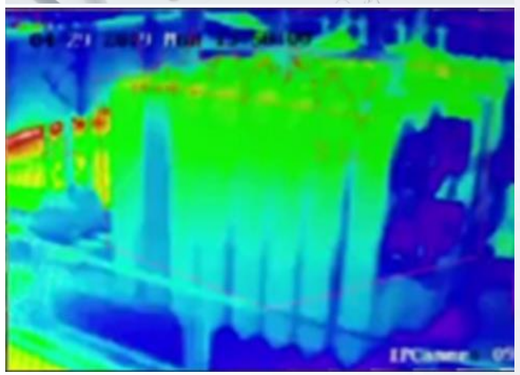
Electrical Equipment

Overheat of air condition motor, distribution cabinet, etc.

Preventive Maintenance

Manufacturing Process

Automotive testing in a non-destructive way for quality control



Food Production

required accurate temperature control during food production

Product Quality Control

AEGIS IoT

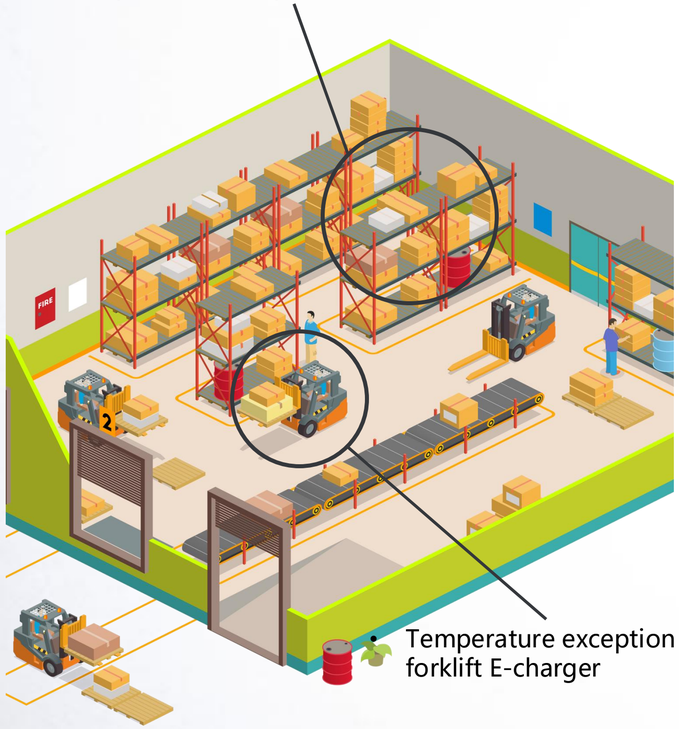
Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Indoor Fire Prevention Solution

Logistic Parks

- Temperature exception for inventories

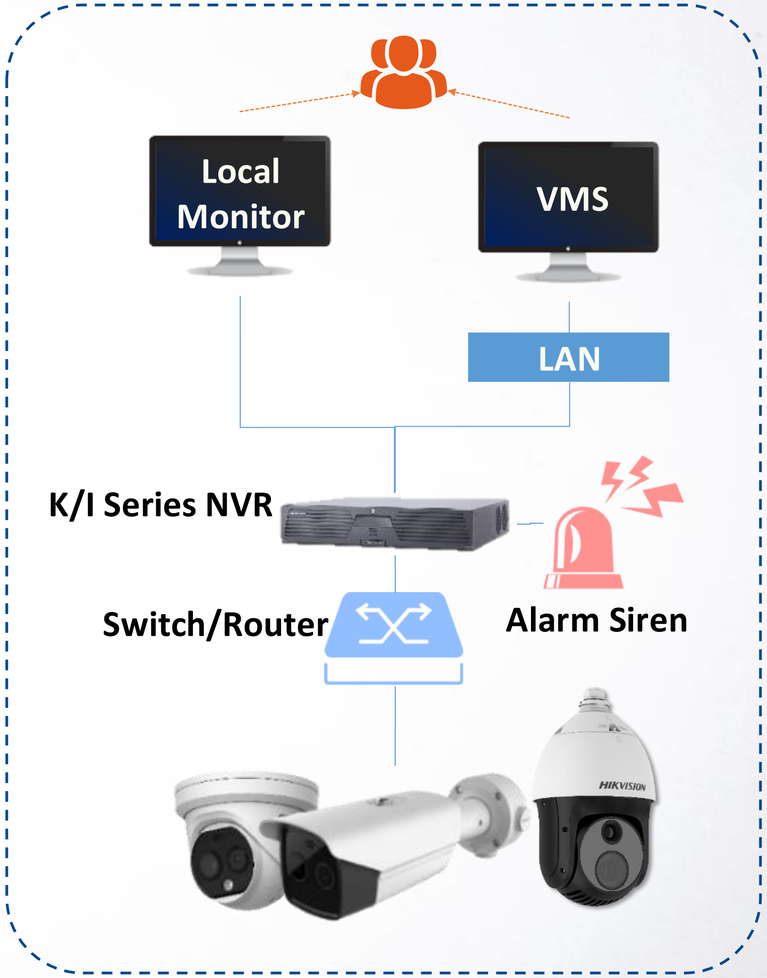


Non-contact
Temperature Detection

Fast Warning with
Abnormal High
Temperature

Unwanted Forklift
Alarm Filter

Light & Audio Warning



AEGIS IoT

Phone: +603 5887 0624
E-Mail: sales@springtech.ai

Indoor Fire Prevention Solution

Factory & Warehouse

Battery Stock

Paper Stock

Woven Yarn

Cement Factory

Wood & Furniture

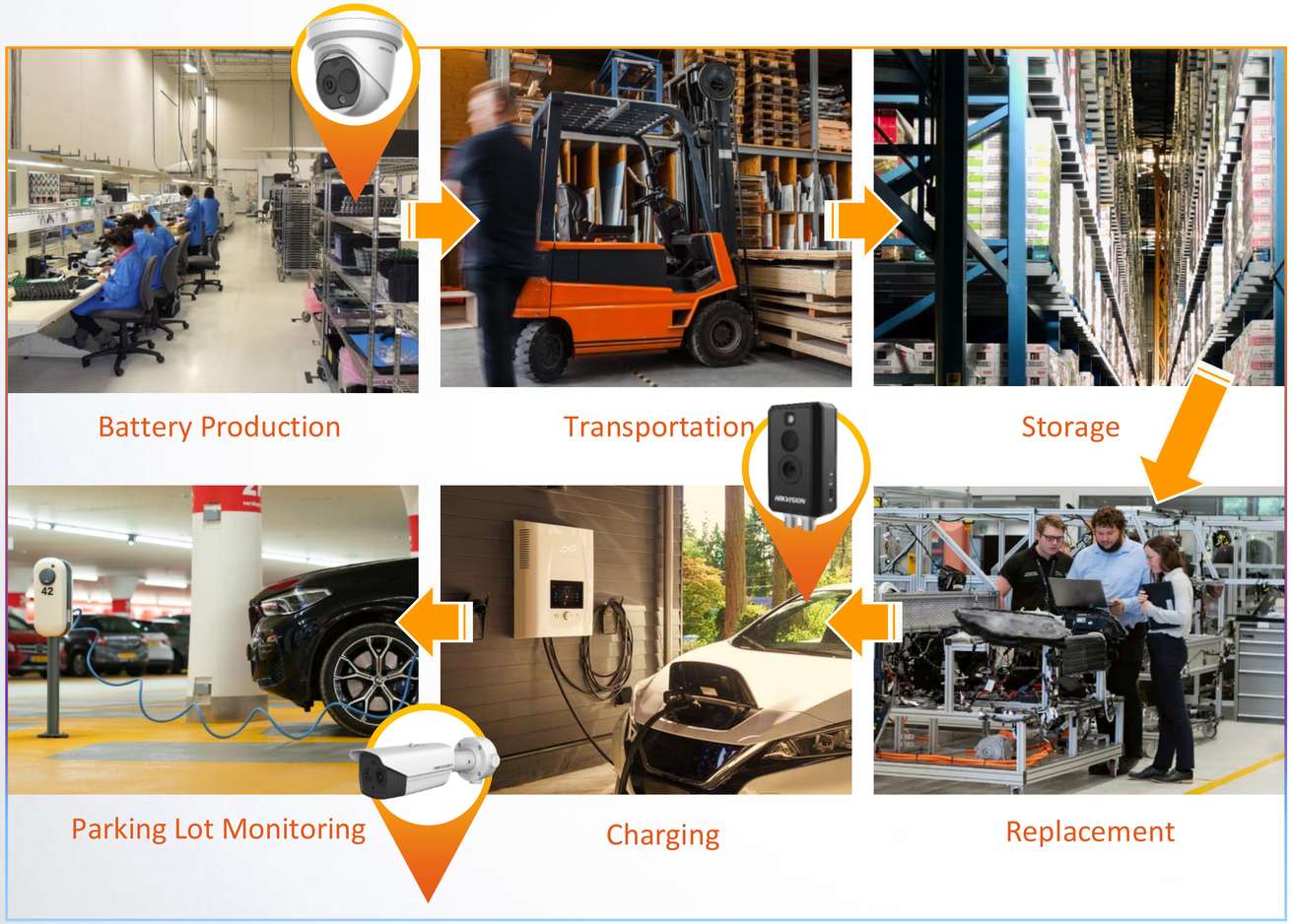
Inflammable Materials

AEGIS IoT

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

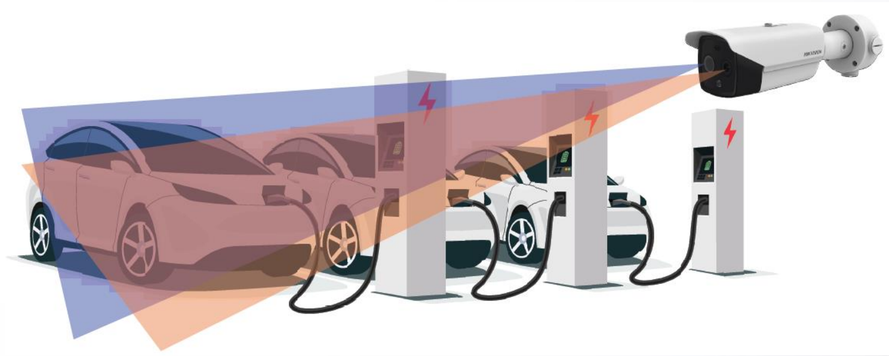
EV Industry Chain



Battery safety is one of the most important thing in EV industry.

Both the terminal and electric vehicle batteries heat up during charging, becoming a potential fire risk.

Thermal camera can detect the temperature exception and locate the fire risk in advance.



Phone: +603 5887 0624
E-Mail: sales@springtech.ai

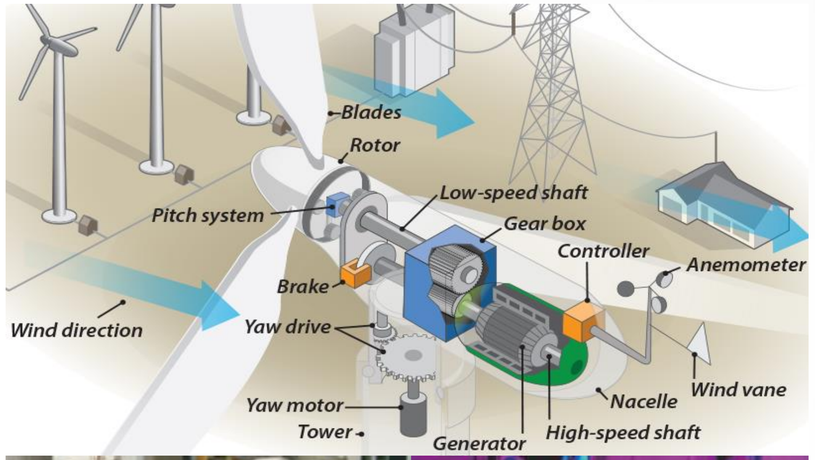
Solar Panel

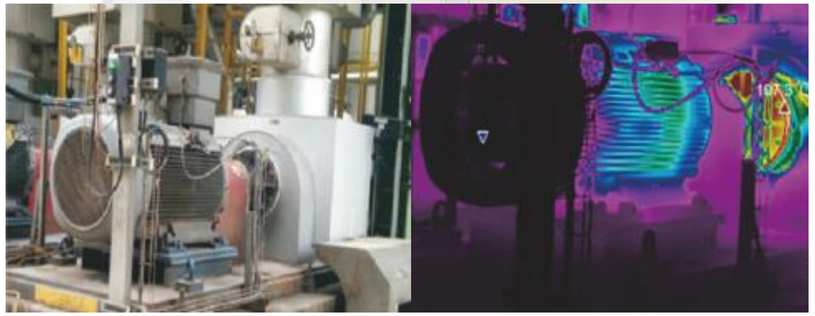
When the solar panel on roof catch fire, it will put the house, factory in danger which leading to huge financial loss and personal injury. Thermal camera can detect the temperature exception before the panel catch fire, leave more time for fire prevention.

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Wind Power





Thermography PTZ camera to monitor the turbine hall from potential fire.

Thermography cube camera to monitor the core components for 24 hours.

What are current solutions and disadvantages?

Currently the monitor of all machines are all doing by **contact sensor**, which is **not visualized and hard to double check**. Thermal cameras could cover this pain point perfectly.

The working of wind turbines bring a huge amount of electricity. During the process both unit equipment and power transmission equipment will generate a large amount of heat and exhibit different temperatures.

When the equipment is about to fail or after a failure, the temperature of the equipment surface will change significantly. Core components like transmission / electrical generator / converter need to be monitored carefully.

Electrical Substation

Thermal imaging could be **widely used for substation inspection and preventative maintenance**:

✓Overloaded equipment

✓Corrosion, loosen connections

✓Damage or deterioration of all kinds.

Common High Voltage Equipment:

- Circuit breakers
- Insulator bushings
- Lightning arrestors
- Mechanical disconnects
- Switchboards
- Electrical cabinets
- Batteries

Recommended Products

Handheld

Bi-spectrum Speed Dome

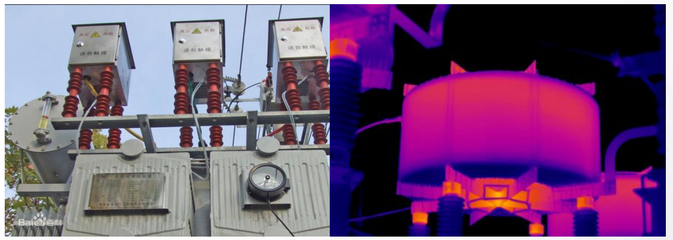
Thermographic Bullet Camera

Bi-spectrum Mini Positioning System

Bi-spectrum Positioning System

Power Transformer

Inspect the temperature of core, oil conservator, bushings and radiator.



Inductor

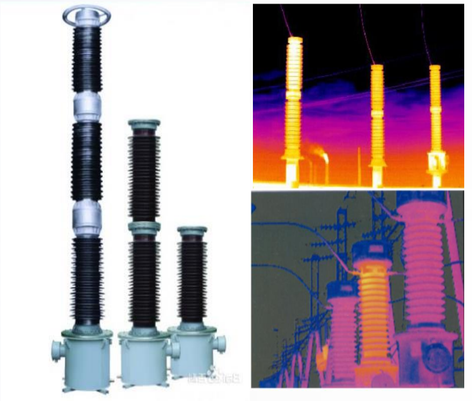
Inspect the temperature of inductor core and cable joint.

AEGIS IoT

Phone: +603 5887 0624

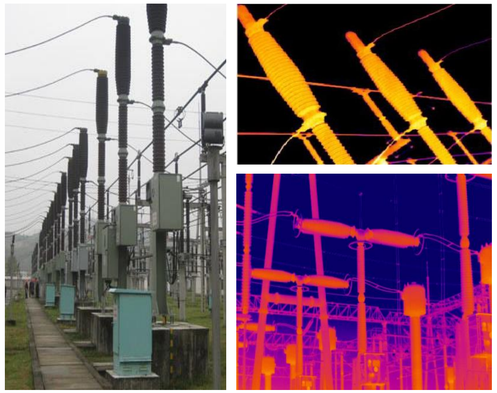
E-Mail: sales@springtech.ai

Electrical Substation



Transformers

Thermal imaging is used to inspect if the temperature in PT body and tri-phrase is stable.



Isolate switch

Max allowed temperature at knife gate is 70 ℃(85℃ tin-plated, 90 silver-plated), wire and conductor maximum temperature is 80 ℃

Main Transformer

one of the most critical equipment in a substation.
Thermal imaging is used to inspect:
1. Transformer core.
2. Oil conservator.
3. Bushings.
4. Radiator.

Resistance filter

Thermal imaging can find the heating defects of the coil and other related components.

Online mounted thermography camera to monitor the temperature of critical electrical equipment 24 hours.

AEGIS IoT

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

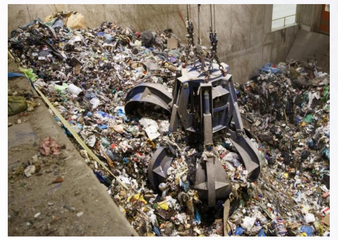
Waste & Recycling Solution

Waste Batteries/Waste Gas Cylinders/Solvents/Waste Paper/Green Waste









False Alarm Reduction

With the help of AI algorithm, thermal cameras have been trained to recognize and ignore the heat from forklift;

Multi-dimensional temperature algorithm reduces the unwanted high temperature alarms caused by sunlight reflection.

High Accuracy

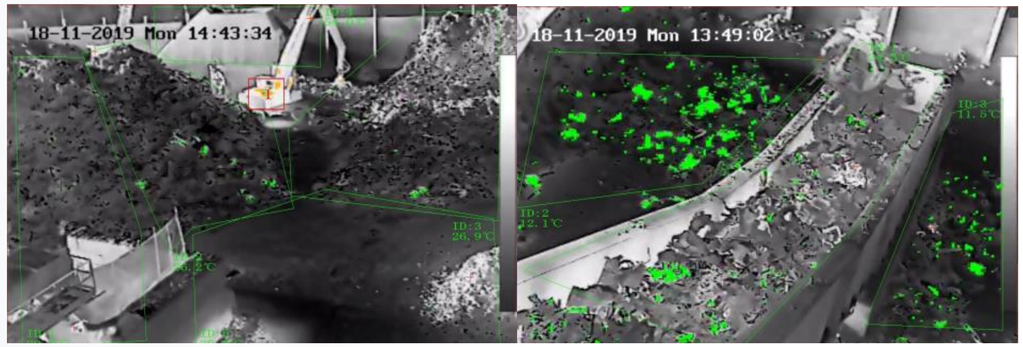
- Temperature accuracy :±2°C/±2%
- Temperature measurement rule types: 21 rules (10 points, 10 regions, and 1 line).
- Temperature measuring range : -20~550°C

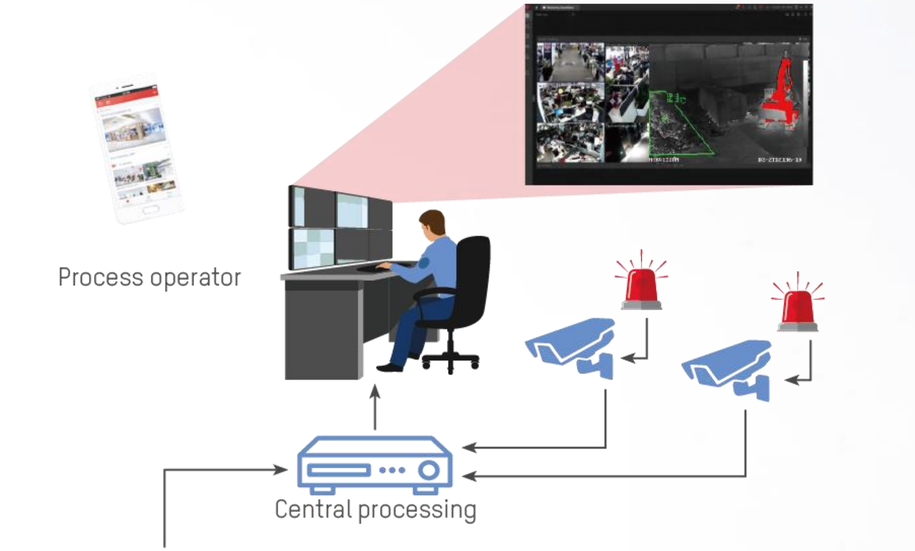
AEGIS IoT

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Waste & Recycling Solution





Product Showcase

DS-2TD41X7T

DS-2TD21X7T
DS-2TD26X7T

Certified CNPP

Tunnel Fire Prevention

- The tunnel is very long, which is time-consuming and demanding for human labor to perform manual fire inspection.
- Thermal cameras perform real-time temperature measurement and fire detection to check the train which enters the tunnel. Once there is temperature anomaly, early alarm will be triggered, which gives more time for maintenance staff to deal with potential threat.

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

IOT-THERMAL-100 Specification

Easy to install with assorted mounting options

Magnet, screw fixation

Vertical mount

Universal joint

Wall mount

Product Specification		
Dimension	56 mm x 38.8 mm x 110 mm	
Power Supply	10-30 VDC, MAX 5W PoE (802.3af, Class 2)	
Parameters	Thermal Resolution	160 x 120
	Optical Resolution	1600 x 1200 (2MP)
	Focal Length	2/3mm
	Temperature Measurements Range	-2℃ to 550 ℃
	Temperature Measurement Accuracy	±2℃ ± 2%
	NETD	≤40mk
	FOV	90° × 66.4°(2mm), 50° × 37.2°(3mm)
	Shortest Measurement Distance	10cm(2mm), 15cm(3mm)
	Others	Audible Alarm, IP67

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Implementation Process

Implementation Process

Implementation Process

The implementation method described in this entry is a generic method and not a specific implementation method as such. It is based on Standard and case studies from various sources and presented as a collection of processes and products that make up a complete implementation method to allow any organization to plan and execute the implementation of the software.

We present our successful applied DREAMS process, which we have implemented in numerous projects. In order to meet the customer's requirements this process is extended to its full potential.

Implementation Process






Demonstration & Evaluation	Requirement & Scoping	Enhancement & Configuration	Acceptance	Move to Production	Support & Maintenance
D	**R**	**E**	**A**	**M**	**S**
• Demo • Evaluation	• Functional Requirement • Non Functional Requirement • Gap Analysis • Impact Analysis • Cost Estimate • Scope • Re-Engineering	• Implementation • Packaging • Solution Testing • Demo to Customer • Change Request	• User Training • Technical/Installation Training • Acceptance Test Support	• Go Live	• Support • Maintenance

AEGIS IoT

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

Technical & Installation Training

Onsite Installation Training

During the technical & installation training exercise, our skilled team of engineers will be deployed client location to conduct a training session with client's technical & engineering team.

Here we will present the industrial best practice, tip & tricks on the best mounting and installation method of the devices.

And of course, installation guide & manual will be provided.

Phone: +603 5887 0624

E-Mail: sales@springtech.ai

💬 QUESTIONS & ANSWERS

Go ahead. Don‘t hesitate.

THANK YOU

For your attention!