



Introducing the **World's First and Only**
Efficiency power supply solutions for IoT projects

May 2021



How do I utilize Ferraris products for IoT projects ?

To better explain where and how Ferraris products are utilized by System Integrators for IoT projects, Ferraris products and its uses have been summarized below.

There is a growing necessity of IoT system implementations in remote locations that lack transformer or power outlets - including road, railway, mountain trails, tunnels, and military - for comfort, safety, and security of the public.

Ferraris products offer the reliable power supply solution (AC/DC) for System Integrators to further actuate and enhance their IoT projects (Free Wi-Fi, CCTV, and various sensors) in such environments, only requiring the nearby power lines to operate the devices.

In addition to wireless charging capability available for drones, faster battery charging via installed solar panels at homes is also possible. Ferraris has ran multiple application efficiency tests for the proposed potential usage of its products.

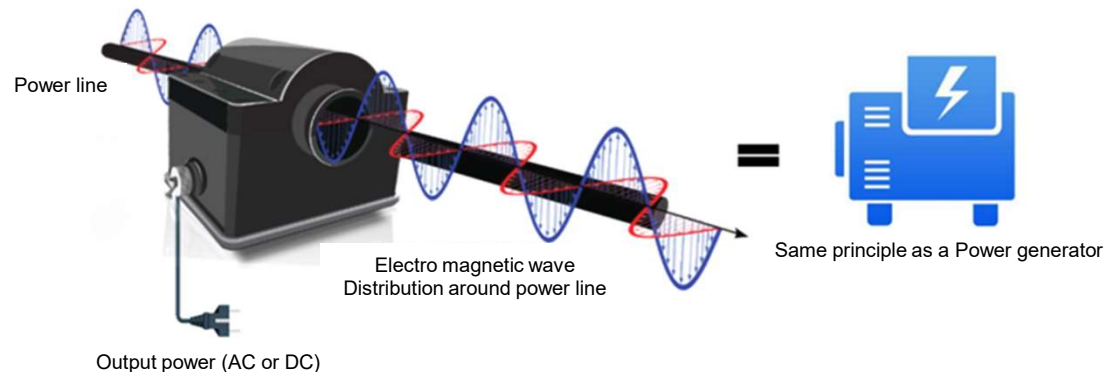
If your company is interested in Ferraris products and would like to inquire technical information for in-depth analysis of your projects, please feel free to contact tech-sales@ferrarispower.com at your convenience.

Ferraris Challenge

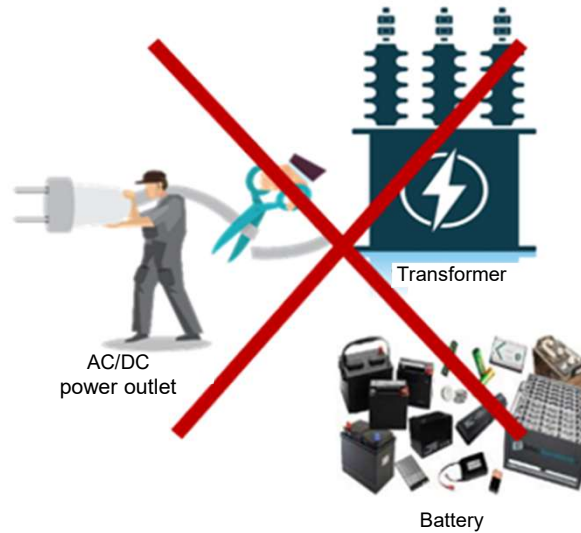
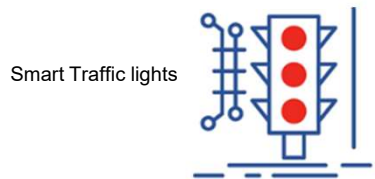
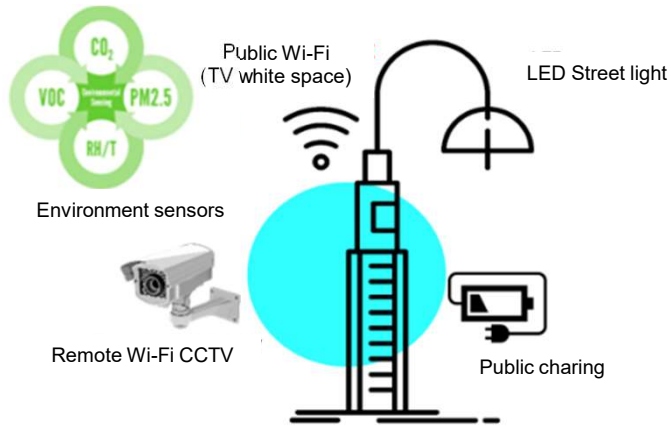
Ever since the commercialization of electricity, there has been an untapped byproduct in the form of electromagnetic field generated by flowing currents in power lines. By harnessing the "forgotten" and "unused" electromagnetic energy, Ferraris has developed a novel platform of Electric power generation and Energy recycling technology for mankind.

Ferraris' technology harnesses induced electrical energy from the magnetic energy variation produced from the power line regardless of the power line voltage. Ferraris products are designed, developed, and manufacturing mainly for the contactless power generator.

Please see the following link: <https://youtu.be/Y3IR5djt5hg>



Key obstacles of Current power supply



- A Huge investment in the usage of electric power line via transformer is required
- Long construction period
- Continuous investment in operating & maintenance cost

A reliable and economical broadband service supporting anywhere

The main hurdle which the system integrator and customer faces is transference of real-time data from variety of systems which can be transmitted by reliable and economical Wi-Fi Solution (for instance, underground and thick forest). We would like to introduce to you an efficient and economical Wi-Fi Solution(TV white space). For the data communication, data range is maximum of 10 km above ground and 2 ~ 3 km range underground.

In October 2020, Ferraris succeeded to integrate Ferraris products with TV white space and CCTV in the Free Wi-Fi zone and Security project at Taejongdae Resort Park located in Busan Korea.

Long Distance. Amazing Penetration

10km NLOS



Reliable wireless broadband service anywhere

Utilizing low-frequency UHF spectrum, Adaptrum radios are able to achieve ten times the coverage of higher frequency WiFi solutions, and provide connectivity in non-line-of-sight (NLOS) conditions to remote communities, across rugged terrain, and through heavy trees and obstacles.



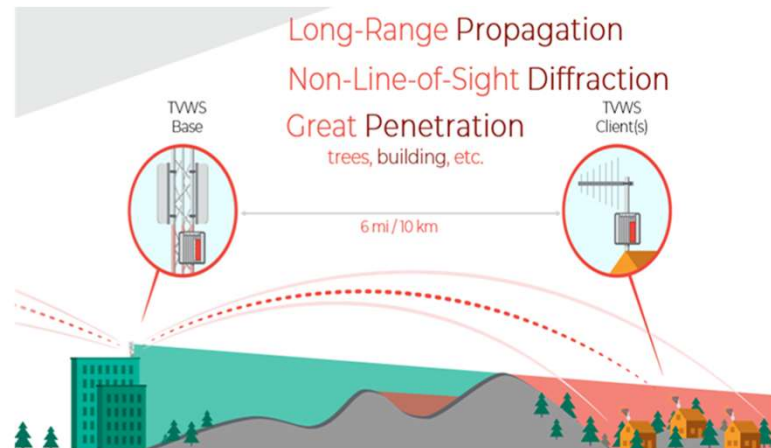
Remote Homes



Hilly Terrain



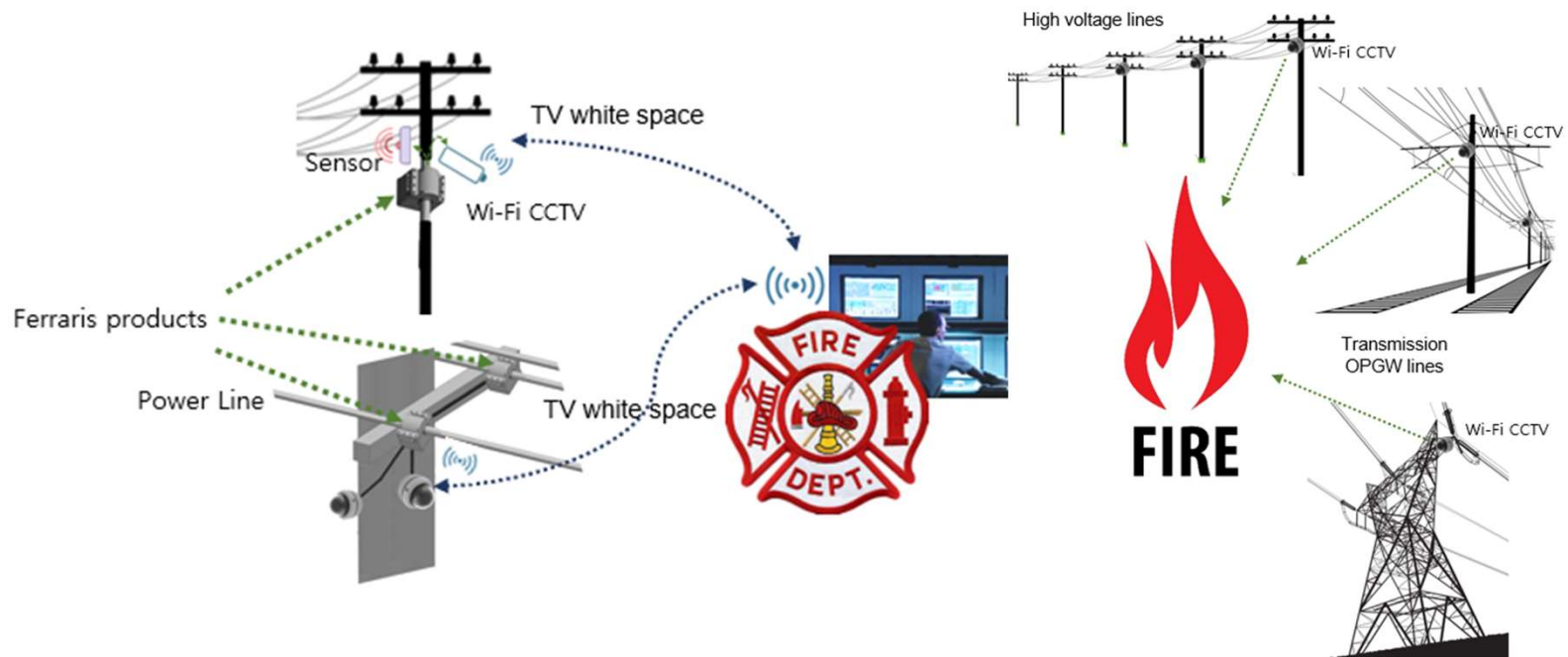
Heavy Foliage



Wildfire early warning system on Power pylons without transformers

Ferraris products can provide electric power to remote devices anywhere power lines can be found. The contactless power supply solutions can be installed on existing high voltage lines, transmission OPGW (OPTICAL Glass Wire) line and provide power to various devices.

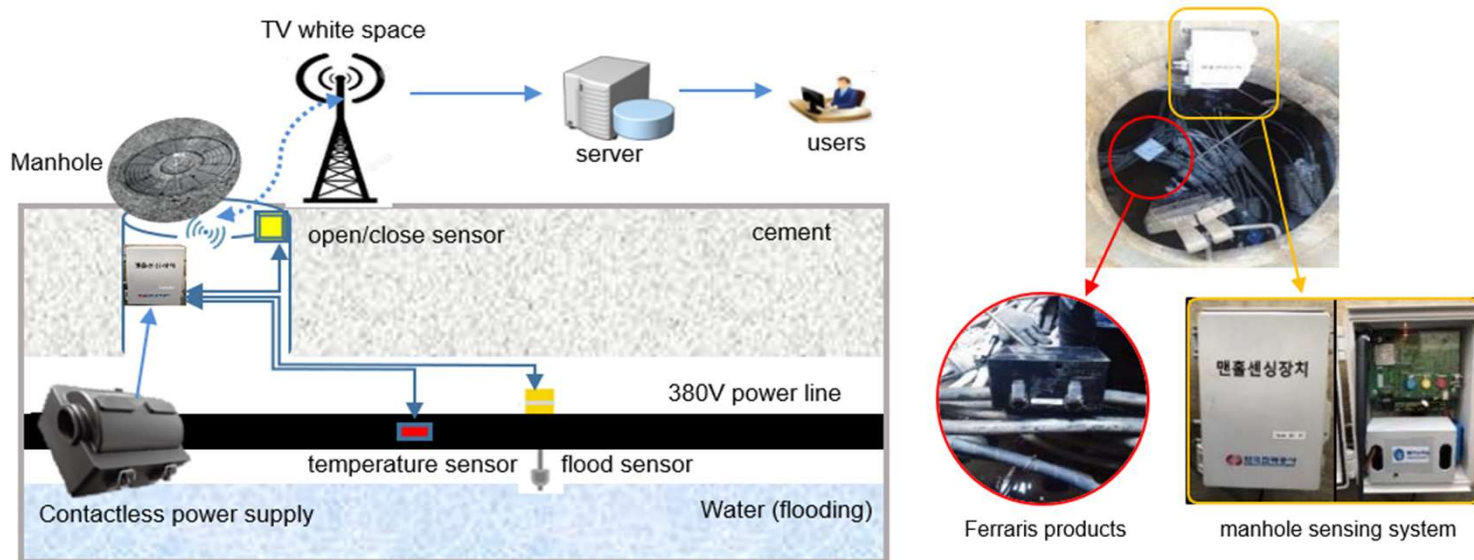
Devices such as CCTVs, fire sensors, environment sensors, TV white space, and more can be installed using Ferraris products to form an early warning system against Wildfires.



Monitoring system for Manhole status

Maintenance required in underground are difficult to reach and often unpredictable. Furthermore, the access to commercial power outlets is often limited or unavailable. The need for accessing power without touching the mainline arises in such cases, and Ferraris can provide such technology to access contactless power supply solutions from main power lines.

The contactless power supply solutions can be installed on existing high voltage lines and provide required power to various meters, sensors, and TV white space. Power can be acquired from an underground high voltage power line and used for the power source of various meters and sensors installation.



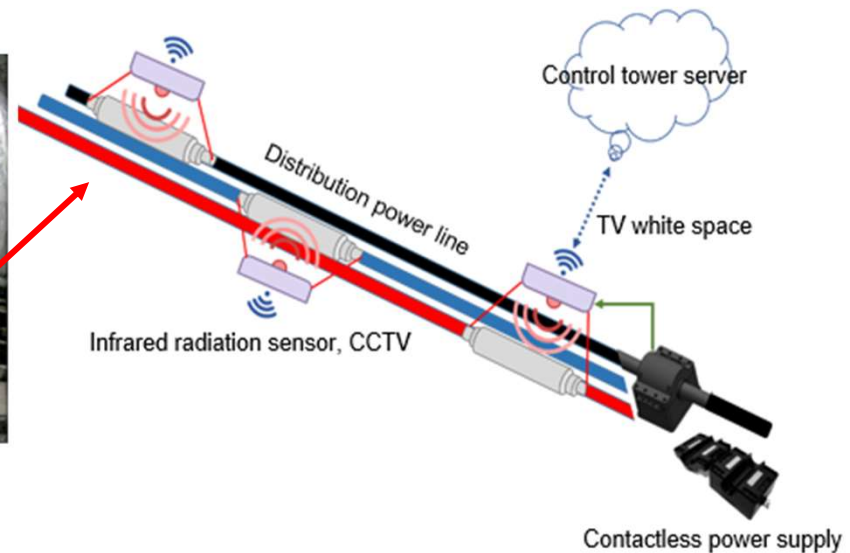
Monitoring system for Metro distribution power line

Monitoring (Fire watch) system that monitors changes in temperature in real time on the bridged point of interface power line along the 22.9kV distribution power line of Metro system.

Utilizes Infrared radiation sensor, CCTV, TV white space, and Ferraris products. Installing Ferraris products provides stable power to the monitoring system for around 8 years, thus reducing battery replacement costs and following labor cost for the battery replacement and hazard material.



Point of interface power line
(Normally 22.9kV line)



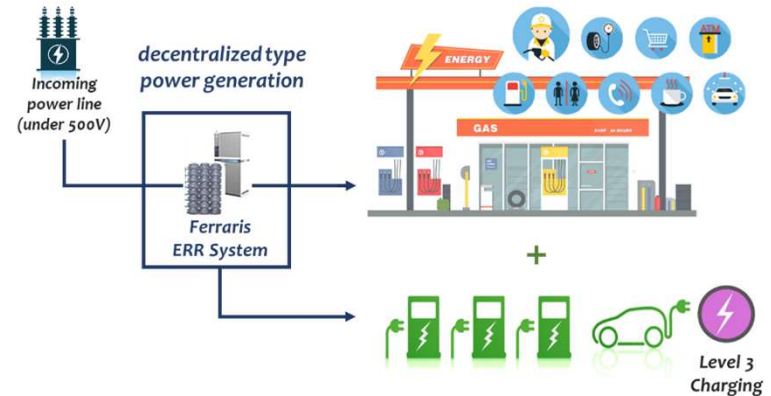
High-voltage OPL precision inspection drones

66.3% of OPL (Overhead Power Line) cannot be maintained manually, and 83% of open circuit faults occur at 154 kV. The usual OPL inspection method is through ground check, robot and camera drone which can cover around 5 ~ 6.5 km in a single day. By using Inspection drone, a product integrating the next generation technology from S-DRONES and Ferraris products, you can dramatically reduce the time, cost, and hazards in OPL Inspections.

- Operating on high voltage OPL without any risk of short-circuit and damage
- Inspection operating hours extended (over 30 km per day) through Ferraris products
- Closed-up inspection of inside and outside of OPL, precision inspection with optical, X-ray, fiber optic cameras
- Point marking / cleansing / anti-icing / coating to extend power line lifecycle



EV Charging station (Level 3 Charging)



1. Current EV Charging station

- Current EV Charging station can not support Level 3 charging without changing Incoming power line method
- Level 1 Charging - 30 minutes
- Level 2 Charging - 30 minutes

2. In the future, EV can recharging *Anywhere*

- Currently, Gas station using electricity for customer service
- Ferraris ERR System make gas station possible to support **Level 3 charging**
- DC Fast/Level 3 Charging - 30 minutes

Electric energy is Electromagnetic energy,

Our approach to a new paradigm of efficient power supply solutions !

If there are any questions, please feel free to contact us as tech-sales@ferrarispower.com .



6671 S. Las Vegas Blvd.,
Building D, Suite 210,
Las Vegas, NV 89119 USA
Office +1 (702) 957-6001
www.ferrarispower.com