TELECOM SOLUTIONS

Empowering Smarter Telecom Networks

Reliable, intelligent power solutions for critical telecom infrastructure.



Your partner for reliable networks



Engineering power, control & monitoring for telecom networks

Alpha Innovations develops and manufactures custom power solutions, monitoring platforms and integrated systems for telecom operators and other mission-critical infrastructures. As a specialist in complex energy, control and communication systems, we help operators keep their networks running without interruption, despite grid fluctuations, harsh or space-limited sites and high-availability requirements.

Our expertise combines power electronics, software, monitoring, control systems and integration capabilities to deliver complete solutions tailored to each application. From rackable power systems and all-in-one FTTH cabinets to multi-site monitoring of thousands of street cabinets, we transform complexity into reliable operational solutions.

Our mission is simple

To keep your telecom networks running with smart, reliable power solutions built for mission-critical performance.

Why choose Alpha Innovations?

Local agility. Global strength.

Alpha Innovations is part of the CE+T Group, an international technology group specialized in energy conversion, power electronics, BESS, monitoring, and energy management solutions. Founded in Belgium in 1934, CE+T has become a recognized global player delivering innovative energy solutions across critical industries worldwide.

Today, the group combines decades of engineering expertise with a strong innovation culture driven by research and development.

- €99 million consolidated turnover
- Approximately 400 employees worldwide
- 7 R&D centers
- 6 production sites
- More than 90 active patents
- International presence across Europe, America, Asia, the Middle East, and Australia

The strength of the group

Being part of CE+T Group gives Alpha Innovations access to a powerful ecosystem of complementary technologies.

Innovation-driven

More than 90 active patents and continuous investment in next-generation technologies.

Telecom expertise

Proven experience in rackable power systems, all-in-one FTTH cabinets, street cabinet monitoring and 5G-ready power migration for European telecom operators.

Long-term partnership

Financial strength, manufacturing capacity, and worldwide support capabilities ensure sustainable customer relationships.

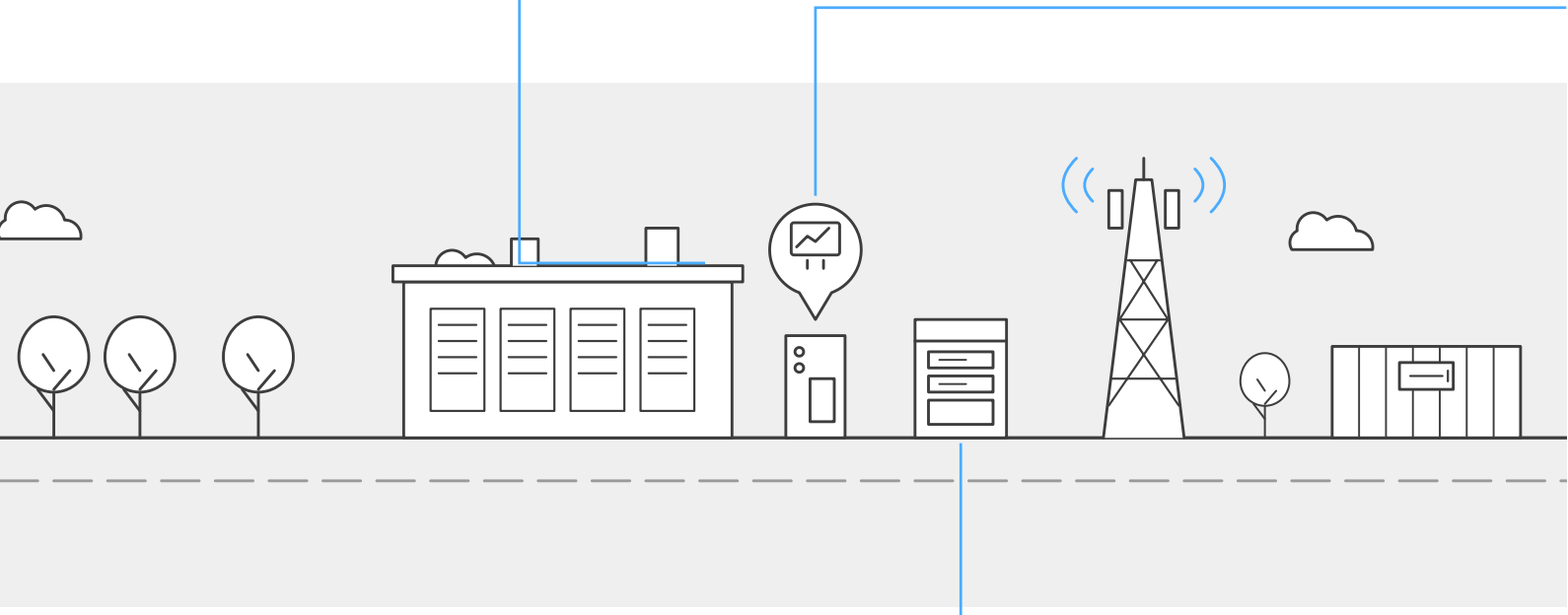
One ecosystem

The combined expertise of CE+T Power, JEMA, RIPEnergy, CE+T America, and Alpha Innovations enables the delivery of complete solutions from energy conversion to advanced monitoring and control.

Solutions for telecom critical power

Predictive maintenance

Detect early signs of failure in rectifiers, batteries and cabinet equipment thanks to our COMPAS and Inview MESH software tools, ensuring maximum uptime, reliability and cost optimization.

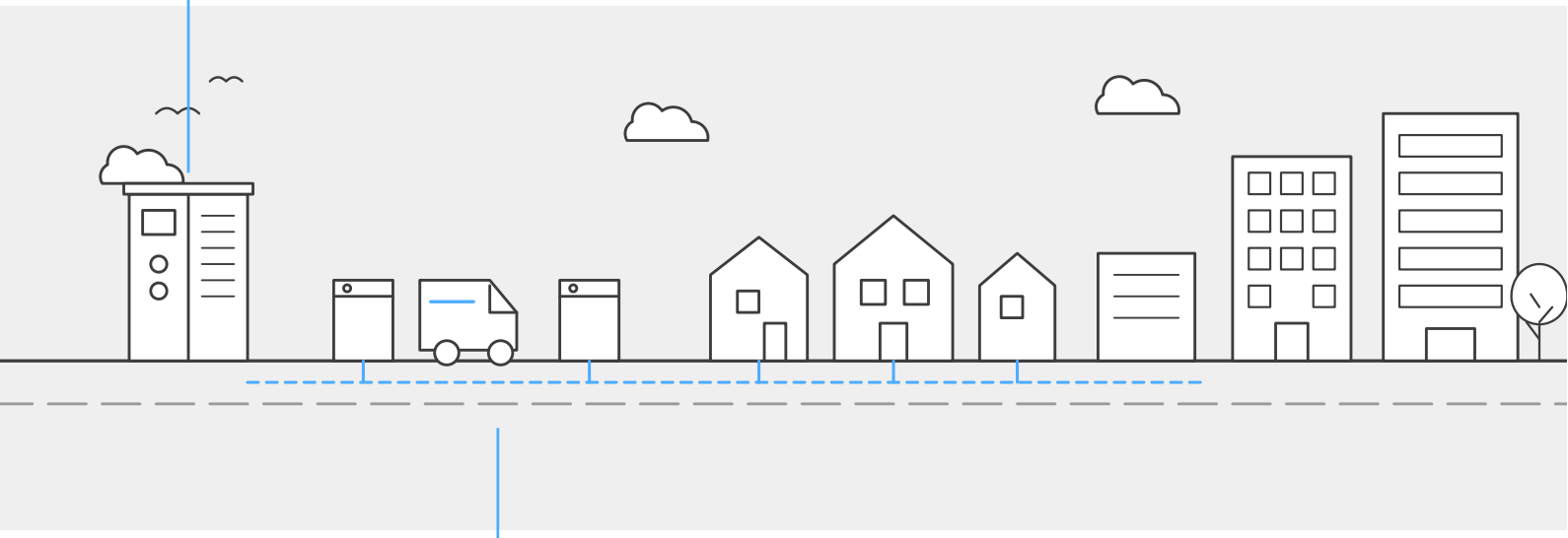


Rackable power systems

Compact, reliable power converters and complete systems designed to stay stable under extreme temperatures, vibration and electromagnetic interference.

Backup power for telecom sites

Autonomous, redundant architectures for street cabinets, remote base stations, server rooms and critical communication hubs, keeping service up during grid failures and blackouts.



Multi-site control & access

Real-time monitoring and control of single systems or entire networks, with smartphone-based technician access instead of RFID readers.

From data collection to predictive maintenance

Telecom networks rely on thousands of distributed sites, from street cabinets and fiber nodes to base stations and server rooms. A single fault can cut service for every connected customer, and the challenge lies in transforming site data into actionable insights.
With COMPAS at the edge and Inview MESH in the cloud, Alpha Innovations gives operators complete visibility over their network and improves decision-making in real time.



Our solutions enable customers to :

- Centralize alarms from all sites and suppliers
- Monitor power, batteries and environment continuously
- Detect door opening, water, vibration and vandalism
- Run remote battery tests and firmware updates
- Plan interventions before customers notice
- Reduce site visits and operating costs

Intelligent monitoring at the edge

Our edge solutions are designed to operate in outdoor cabinets and remote sites, with SNMP and ETSI-compliant communication, and provide real-time access to critical operational information.

MODULAR | SCALABLE | BIDIRECTIONAL | REAL-TIME

MCU Oled



- 1U fits in 19" rack
- CAN, Ethernet, USB host & device extension

UCC



- 1U, 19" rack form factor
- CAN - RS485/232 - USB-A/B + ADIO cards

GALEO



- DIN Rail form factor
- Based on a Raspberry Pi
- Standard connectivity

Know about failures before your customers do

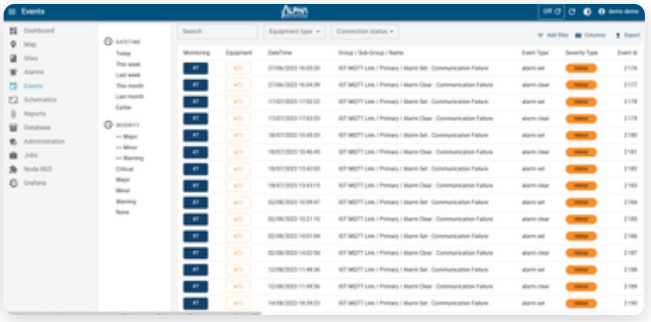
Telecom operators manage thousands of street cabinets distributing fiber optic service to buildings. A fault in one cabinet cuts internet and phone service for everyone connected to it.
A European operator was relying on several monitoring units per cabinet, from different suppliers, making maintenance and repairs difficult and costly.

Smarter maintenance starts with one card per cabinet

A single **COMPAS** monitoring card, available in 300 W and 1000 W versions, now collects data from all equipment in each cabinet and sends it to a central point, where it can be managed through any SNMP software or the **Inview MESH** web extension.

MONITOR | ALERT | ACCESS | CONTROL

Each card supervises cabinet door opening, humidity, battery and cabinet temperatures, vibrations to detect vandalism attempts, water detection, external equipment such as fans or heat exchangers, and total AC power consumption through a smart energy meter. The modem/router linking the cabinet to the network operations center is powered by a 12 VDC source from the energy system, so monitoring stays available. Technicians access the cabinet with their smartphone instead of an RFID reader.



Efficient interventions

An overview of all cabinets, with alarms identifying the affected cabinet and the fault.

Quick interventions

Failures are known before end users notice, so service is restored faster.

Lower costs & better TCO

One platform per cabinet simplifies management, maintenance and upgrades.

Fewer site visits

Remote battery tests, cooling control and firmware or software updates.

Rackable power systems

Built for space-constrained telecom sites

Our **ACE104** and **ACE105** 1U power shelves fit 19" racks and ETSI frames in cabinets only 300 mm deep. Each slot takes an **ECOR1048TN** AC/DC rectifier or a **CDCWI1048** DC/DC converter, so every shelf matches the power source available on site.

Telecom sites & cabinets

ACE104 · 850 TO 4,000 W

Power and battery backup for space-constrained telecom sites, with integrated monitoring and battery management.

Cell sites & edge computing

ACE105 · UP TO 5,000 W

Ideal for low-power applications such as cell sites and edge computing, with up to five converters in 1U.

Battery, H_2 & fuel cell backup

ACE104 · ACE105

Suited to a wide range of storage technologies, with an integrated LVD and breaker. Optional ARTS Energy NiMH batteries.

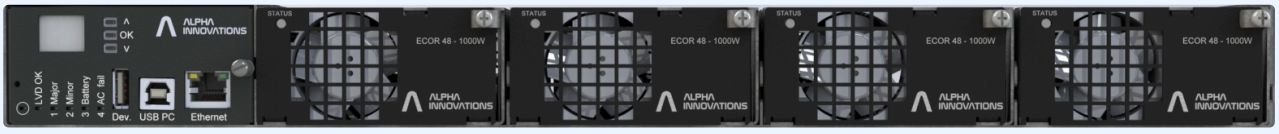
Mixed sources & harsh sites

ACE104 · ACE105

Mix AC and DC sources in one shelf. Up to 70 °C (derated), 3,000 m elevation, optional 95% humidity.

Reference: PHBP Electrónica (Portugal), a developer, manufacturer and distributor of telecom and energy infrastructure solutions, relies on ACE104 power shelves equipped with ECOR1048TN rectifiers.

ACE104 4 power slots + integrated monitoring unit · up to 4,000 W



ACE105 5 power slots · up to 5,000 W · monitored via a coupled ACE104 (up to 9 kW together)



ECOR1048TN 1 kW AC/DC rectifier

- Input 90–265 Vac or 85–408 Vdc, auto AC/DC detection
- Output 40.5–58 Vdc, 95.5% typical efficiency
- -40 to +80 °C, hot-swappable
- MTBF 500,000 h (Telcordia SR-332)

CDCWI1048 1 kW DC/DC converter

- Input 24–63 Vdc, automatic 24 V / 48 V range
- Output 40.5–58 Vdc, 90% efficiency
- Parallel 1 to 10 kW, active load sharing
- Hot-swappable, zero-downtime maintenance

Looking for another configuration? More power shelves are available, including **ACE102**, **ACE306**, **CAPTIN 300FA** and **CAPTIN 1000BW**.

DISCOVER ALL OUR RACKS ›

www.alphainnovations.eu/en/portfolio-power-conversion-systems

Telecom integration project

All-in-one 12 kW cabinet – FTTH & 5G

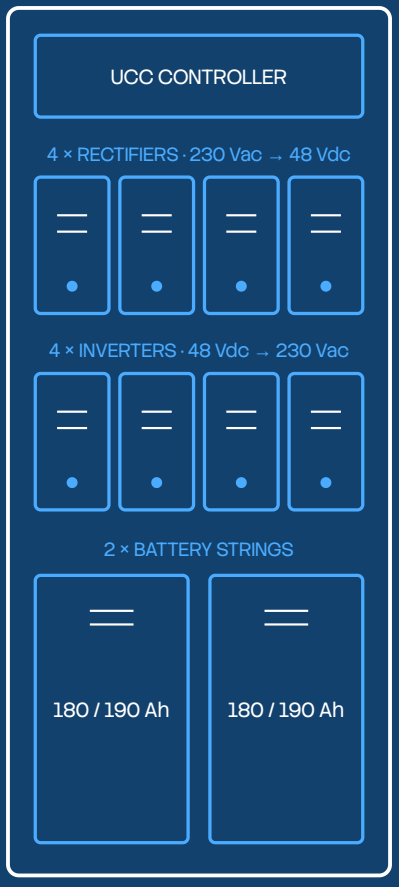
For a European telecom operator, we designed a custom 12 kW cabinet for each Fiber Optic Node shelter, combining rectifiers, inverters, monitoring and batteries in one compact unit. Our solution ensures:

- Very high-speed home internet running 7/7
- A scalable, compact design for nationwide roll-out in existing cabinets

The solution has evolved with the operator's needs over many years of partnership.

Inside the cabinet

Power conversion, energy storage and supervision combined in a single 12 kW unit.



Hot-pluggable rectifiers

Four slots converting 230 Vac to 48 Vdc

Hot-pluggable inverters

Four slots converting 48 Vdc back to a pure 230 Vac sine wave

Up to 96% efficiency

Less energy loss and less heat inside the cabinet

Battery backup

Two lead-acid battery strings rated 180 or 190 Ah; other chemistries possible

Universal Compas Controller

Alarms, battery management and remote control over TCP/IP

CTM integration

One controller replaces several, saving space and cost

Inview MESH

Multi-site monitoring, planned interventions and preventive maintenance

Telecom power expertise

Powering the move to 5G & IoT

A European operator's street cabinets for telephony and internet were powered by 500 W rectifiers that no longer matched the changing power needs of 5G and IoT. The replacement had to ensure continuous operation, limit costs and minimize changes to the cabinet infrastructure.
Alpha Innovations mechanically customized its existing 300 W **ECOR0348TN-1A** rectifier to fit the existing shelves. The hot-swappable module offers improved efficiency and a wide operating temperature range for harsh outdoor environments, while **COMPAS** local monitoring supports operation and maintenance.

✓500+
street cabinets spread over about 2,500 km²

✓2,500
rectifier modules in roll-out

✓200
sites equipped with COMPAS monitoring


Existing shelves & cabling kept


Shelf swap in a few minutes


Hot-swappable modules


-20 °C to +70 °C operating range

Three pillars of a smooth migration

- **Continuity of service**

Hot-swappable modules are replaced during operation, so subscribers keep their telephony and internet service.

- **Cost control**

Existing shelves and cabling stay in place, and improved efficiency lowers operating costs.

- **Built for the field**

A wide operating temperature range for harsh outdoor cabinets, with COMPAS monitoring to support operation and maintenance.

Other use cases & news

USE CASE



Customer : Convertel
Application : Supply and backup of telecom infrastructure
Country : Costa Rica
Expertise : ACE104 dual-input (AC-DC) 4 kW tropicalized system

POWER SHELVES

USE CASE



Customer : Alcatel-Lucent Enterprise (ALE)
Application : Telecom access nodes and telephony service platforms
Sector : Telecom
Expertise : ECOR1048TN 1 kW rectifiers

POWER MODULES

USE CASE



Customer : European telecom operator
Application : Fiber to the Home (FTTH) & 5G nodes
Country : Europe
Expertise : 12 kW all-in-one cabinet, UCC, Inview MESH

POWER & CONTROL CABINETS

USE CASE



Customer : European telecom operator
Application : Unified street cabinet monitoring
Country : Europe
Expertise : COMPAS monitoring card (300 W / 1000 W), Inview MESH

MONITORING

USE CASE



Customer : European telecom operator
Application : Street cabinet powering for 5G & IoT
Country : Europe
Expertise : ECOR0348TN-1A 300 W rectifier, COMPAS

POWER MODULES

NEWS · OCTOBER 2025



From ARMADA to Inview MESH

Our asset management platform becomes Inview MESH: one multi-vendor cockpit to monitor and control equipment across all your sites, from a single web interface, proven at the scale of thousands of devices.

PRODUCTS



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