

PRODUCTS, SYSTEMS & SERVICES

# Telecom Solar Power Systems

Site-specific solar, storage, hybrid power and remote operations for cellular towers, repeaters, microwave links and distributed telecom infrastructure.

## SITE-SPECIFIC

Load and resource based

## MULTI-SOURCE

PV, grid, battery, genset

## REMOTE-READY

Alarms, KPIs and control

## LIFECYCLE

Design through optimization

**TURNKEY SOLUTIONS + MODULAR SUPPLY**

[thesolartelecom.com](https://thesolartelecom.com)

OPERATING SCENARIOS

# One platform. Four operating scenarios.

Architecture is selected from the site's load, solar resource, utility condition, access, climate and continuity target.

01

## Off-Grid Solar

Independent power where grid extension is unavailable or uneconomic.

- Worst-season PV and storage model
- Equipment-matched DC or mixed AC/DC
- Critical-load priority and recovery margin

02

## Solar-Grid-Battery

Coordinate unstable utility supply with solar and storage.

- Configurable source priority
- Ride-through and outage reserve
- Grid quality and energy analytics

03

## Solar-Battery-Genset

Reduce generator runtime, fuel logistics and maintenance visits.

- Automatic start and stop logic
- Runtime and loading protection
- Fuel and avoided-runtime KPIs

04

## Grid + Battery Backup

Protect critical radio and transport loads through grid outages.

- Configurable reserve and autonomy
- Battery health and capacity trend
- Stable continuity within approved voltage range

## Project-specific configuration

No fixed template is applied before the design inputs are verified.

### ADDITIONAL OPTIONS

**Grid + Solar + Storage**  
**Multi-Tenant Tower Power**

SYSTEM PORTFOLIO

# Integrated components. Documented power path.

Source a complete engineered platform or select modular equipment for an approved site design.

01

## ENERGY INPUTS

PV / grid / generator / optional wind

02

## CONVERSION & CONTROL

MPPT / rectifier / inverter / DC/DC

03

## STORAGE & DISTRIBUTION

Battery / BMS / protection / critical loads

04

## DIGITAL OPERATIONS

EMS / alarms / KPIs / NOC integration

PV

## Solar PV Subsystems

Modules, racking, combiners, DC protection and cable packages.

ESS

## LiFePO4 Storage

Telecom battery modules, racks, BMS, disconnects and reserve sizing.

MPPT

## Hybrid Controllers

PV harvest, source coordination, generator logic and battery-aware control.

DC

## Rectifiers & DC Power

Modular AC-to-DC conversion and protected telecom distribution.

AC

## Inverters & DC/DC

Efficient conversion for mixed AC loads and auxiliary DC requirements.

CAB

## Outdoor Energy Cabinets

Protection, distribution, thermal management and secure cable entry.

EMS

## Site Energy Management

Alarms, SoC/SoH, source analytics and secure remote operations.

GEN

## Generator Integration

Start/stop logic, runtime protection, fuel data and maintenance interfaces.

# Power for six telecom applications.

Six telecom applications, one engineering workflow and clear deliverables at every stage.

## Telecom applications

01

### Cellular Towers

Macro, micro and rural BTS

02

### Wireless Repeaters

Ridge, corridor and coverage infill

03

### Microwave Towers

Critical backhaul and transport

04

### Wi-Fi Networks

Hotspots and distributed access

05

### Security Cameras

Remote CCTV and analytics

06

### Tower Lighting

Obstruction and safety lighting

## Engineering workflow

1

### ASSESS

Verify load, resource, grid history, climate and physical constraints.

OUTPUT: VERIFIED DESIGN INPUTS

2

### ENGINEER

Model energy balance; define ratings, reserve, controls, SLD and BOM.

OUTPUT: APPROVED CONCEPT AND BOM

3

### INTEGRATE

Assemble, configure, inspect and factory-test against the design.

OUTPUT: CONFIGURED SYSTEM AND FAT FILE

4

### COMMISSION

Support installation, parameter checks, training and handover.

OUTPUT: COMMISSIONED OPERATING SYSTEM

### LIFECYCLE SERVICES

Site assessment | energy modelling | detailed engineering  
factory integration | deployment support | lifecycle optimization

**ENGINEERING CONFIDENCE**

# Evidence for engineering, procurement and acceptance.

● **DESIGN BASIS**

Recorded assumptions, architecture, ratings and applicable standards.

● **PRODUCT VERIFICATION**

Confirmed model, environmental rating, battery configuration and destination needs.

● **ACCEPTANCE RECORDS**

Configuration records, factory test results, packing and commissioning files.

**START A PROJECT**

## Share the site. We will define the power path.

For a useful first assessment, send the information your engineering team already has. Missing inputs can be confirmed during site review.

**LOAD**

Average, peak and critical loads

**POWER**

Grid availability and generator history

**SITE**

Location, climate, access and footprint

**TARGET**

Autonomy, continuity and OPEX priorities

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Final system configuration and performance depend on site conditions and approved engineering design.