



VESTEL TELECOM
BATTERY SOLUTIONS
ENSURING CONTINUITY

VESTEL
Battery Solutions



VESTEL CITY

VESTEL CITY

VESTEL
Konya Fabrikası

VESTEL

With over 38 years of experience, Vestel has more than 20.000 employees and production capability built on advanced technology. Established over a 1.3 million m² area in Manisa, Vestel's manufacturing base Vestel City is one of the largest single-site industrial manufacturing complexes in Europe. Vestel has 11 offices based around the world, clientele from 160+ countries, ODM+ production with A-brands, a client-orientated mindset and a dynamic R&D.

Vestel offers consumers a wide product range, which includes consumer electronics, major household appliances, small home appliances, battery solutions, professional displays, and automotive electronics. All of the production facilities are located in Turkey and the battery production plant is located Aegean Free Trade Zone in Izmir.

Thanks to its manufacturing capabilities, strong R&D, and innovation capacity, Vestel is a market driver in global markets with its technological exports.



Exports

160+ countries



Export Leader of Turkey

for the last 23 consecutive years



900+ Customers

500+ Brands



Established over

1.3 million m²



20.000+

Employees

Vestel Sustainability Goals



Net zero emissions by 2030, and across the entire value chain by 2050.



Achieving a **100%** sustainable supply chain by 2030.



Recycling 50% of the water used by 2030, and 100% by 2050.



Reducing waste by 50% until 2030 and reaching **zero waste until 2050**.



Vestel's vision is to be a technology company creating social and environmental benefits through accessible and smart products that make life easier. We are investing in innovative business models for transition to a net zero emission economy and striving to implement circular models in both our products and operations.

We are developing solutions that meet the needs of the future. We are designing products free from hazardous chemicals, that use recycled and recyclable materials, which are durable, easy to repair as well as energy and water efficient.

We calculate and report our carbon footprint according to the ISO 14064 standard and our water footprint according to the ISO 14046 standard and have these verified by independent third parties. We share our performance transparently through our CDP reports. We aim to reach net zero emissions by 2050, first in our own operations and then throughout our entire value chain. To that end, we aim to switch to technologies that cause less greenhouse gas emissions in production, increase renewable energy investments and manufacture products with high energy efficiency, less water consumption, and resource efficiency benefits.

We aim to strengthen our presence as a global player with our experience, vision, intellectual power, and technological prowess; and we are determined to contribute to a better and livable world, focusing on our environmental, social and governance performance.



Vestel Trade	Manisa
Vestel UK	London
Vestel France	Paris
Vestel Germany	Munich
Vestel Iberia	Madrid
Vestel Holland	Rotterdam
Vestel Russia	Moscow
Vestel Central Asia	Almaty
Vestel Romania	Bucharest
Vestel Poland	Warsaw
Vestel Gulf	Dubai
Vestel USA	New York



AVAILABILITY



**Headquarter
Manufacturing Facility**





Innovation

tailored to your ideas

VESTEL's Tailored Technology approach brings the true meaning of custom design experience and creates the highest level of technology solutions from scratch. VESTEL Battery Solutions R&D team ensures complete client satisfaction by meeting the needs of any project at the highest quality. Combining the latest technology test and simulation tools alongside the design and manufacturing capabilities all in-house.



Fast and Fully Customized Projects by
Providing Direct Access to our R&D Team.



R&D Investment Amounting to an
Average 80M USD.



7 R&D Centers in 4 Countries.



Among Top 50 Companies in Patent
Applications in Europe

PRODUCTION WITH HIGHEST QUALITY

TPM Awarded Manufacturing Facility

Awarded for World-Class TPM Achievement

Auto Grade Production for BMS

Automotive Grade In-house BMS Manufacturing with IATF 16949 Certification at Europe's biggest automated PCB facility.

Automated Production Lines

Fully automated cell sorting for the best possible cell balancing.

Laser Welding

Fully automated laser welding technology.

In-house Accredited Testing Facilities

Vestel Battery Solutions provides the utmost quality products with highest standards of quality with in-house Accredited testing facilities for environmental, electrical, software and mechanical tests.



Tracking Real Time



ERP Integration



Real Time Planning

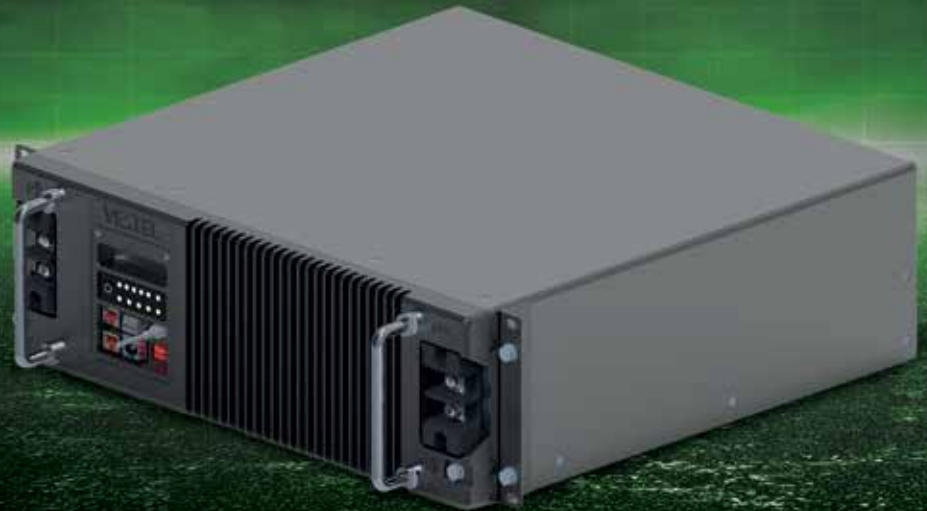


Traceability



VESTEL TELECOM BATTERY SOLUTIONS

Vestel Telecom Battery is high-performance lithium battery which delivers fast recharging and exceptional deep cycling performance, reduces customer's OPEX and carbon footprint while providing safe and secure operations in the field.



KEY DESIGN FEATURES



Innovative

- **Smart Charging Technology:** To extend the lifespan, the battery packs are designed to prevent any charging of others in the same network.
- **Unlimited Connection:** It provides unlimited parallel connection to reach higher capacities.
- **Rapid Response:** It promptly responds to any power outages in 0.2 seconds since its decision-making architecture is governed by hardware.
- **Non-Interruptable:** It is designed to sustain the power supply to the load continuously. Even in the case of communication problem with rectifier.



Safe

- **Anti-Theft:** It is equipped with a motion sensor that detects even slight movements and generates an alert in the event of any potential theft.
- **Protection:** Over-under current, voltage, temperature conditions are prevented with the advanced protection unit in BMS. Multiple temperature sensors continuously transfer data, facilitating seamless monitoring and response to warning signals.

KEY DESIGN FEATURES



Efficient

- **Fast Charging:** Within a two-hour timeframe, it exhibits a notable capability to achieve 80% of its total capacity, thereby delivering expeditious and efficient charging.
- **Mix Use with Lead Acid:** It can be used in combination with lead acid batteries.
- **Smart Heater:** Owing to its built-in smart heating system, it has the capability to function at low temperatures.



Low OPEX

- **Remote Control:** Its status can be monitored periodically, and multiple battery functions can be remotely configured and tested.
- **In-Build GPRS:** GPRS module is ready to transfer data at low signal sites.



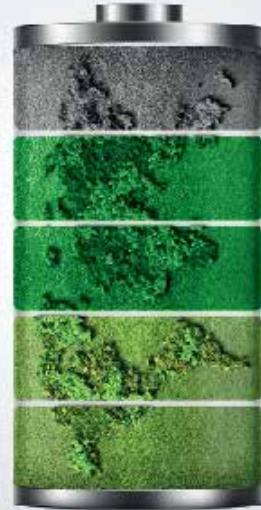
Durable

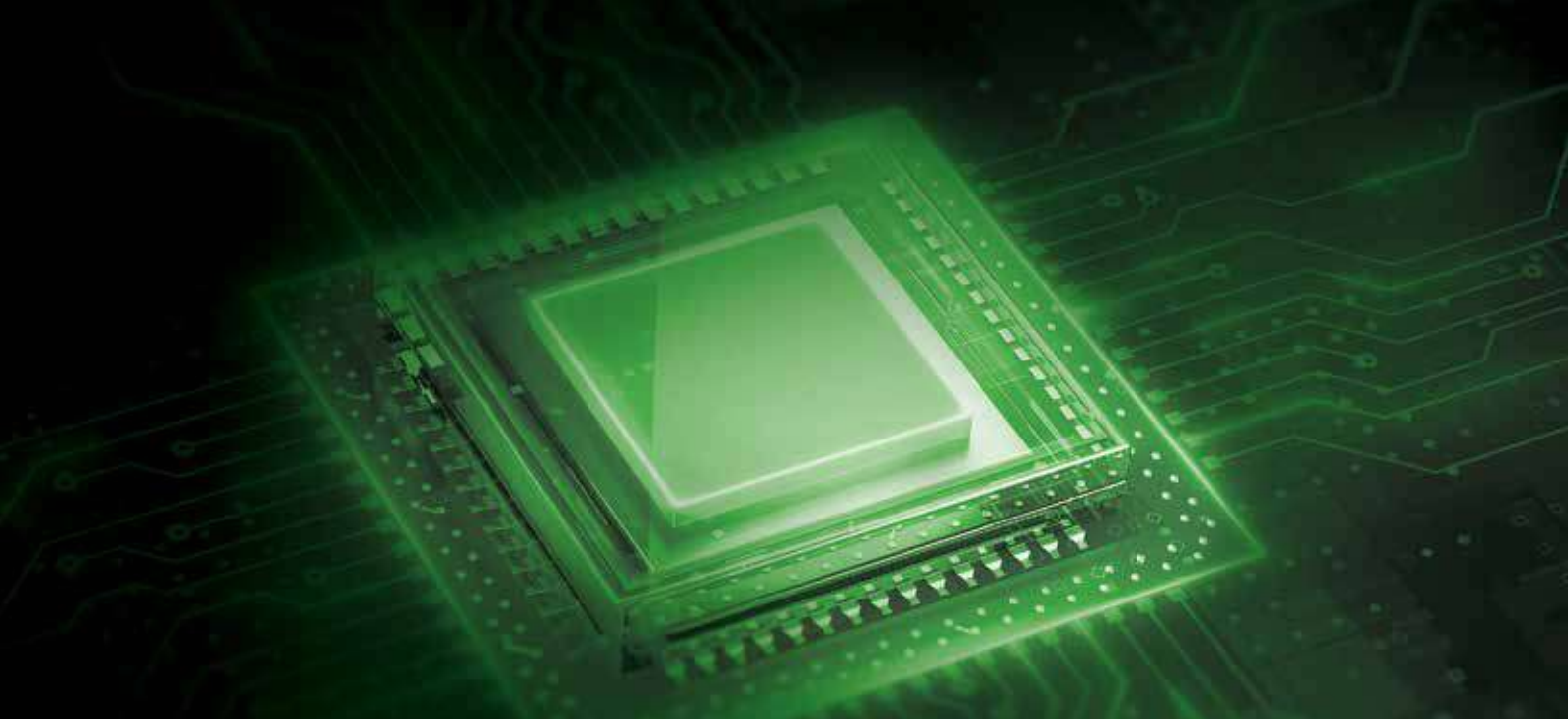
- **Long Life:** With JEITA Charge Control Algorithm, the cells are always kept within the optimal temperature range to ensure peak performance.
- **Laser Welding:** Its endurance performance is improved with laser welding technology.

LOW LEVELIZED COST OF STORAGE



Vestel Telecom Battery introduces an innovative technology that presents numerous advantages over traditional diesel generators and lead acid batteries. With its cleaner and more efficient operation, it offers a more environmentally friendly alternative, helping to reduce harmful emissions and waste. Furthermore, its exceptional lifespan and lower maintenance requirements contribute to its long-term cost-effectiveness.





HIGHLIGHTS OF OUR
**BATTERY
MANAGEMENT SYSTEM**

- External Cell Balancing
- Over / Under Protection: Temperature, Current and Voltage
- RTC Always ON Even Shutdown
- JEITA Charge Control Algorithm
- USB Firmware Upgrade
- Series and Parallel Battery Connection Capable
- HW Architecture Design for Easy Integration
- Comprehensive Cell Temperature Control from 4 Different Position
- 2 Channels Dry Contact for Alarm
- Wide Range of Communication Options including RS485, CANBUS, UART, SMBus, Ethernet, USB, Bluetooth
- Safe Operation Maintenance: External Power Connection Switch ON/OFF Battery
- High Current Capable On-Board Charge (up to 40A/battery)
- Over The Air Software Update



HIGHLIGHTS OF OUR
BATTERY TECHNOLOGY

01 **Lithium Iron Phosphate Technology**

Enhancing safety and cycle endurance

02 **Fast Recharging**

Preventing downtime and providing the utmost efficiency for charging cycles

03 **Longer Life**

Providing 2 - 3 times of lifespan of Lead Acid batteries

04 **Higher Energy Efficiency**

Providing more energy density & Ensuring minimized energy loss

05 **Low Levelized Cost**

Lower operational and maintenance costs

Vestel Telecom Battery 19" 48V 100 Ah LFP

Product Specifications

Enclosure Size	19" 140 mm height	Weight	43 kg
Lithium Chemistry	LiFePO4	Dimensions (HxWxD)	140 x 440 x 430 mm
Voltage Range	43 V – 54.5 V	Communication Protocols	RS485, CANBUS, Ethernet*
Rated Capacity	100 Ah	Available Safety Standards	IEC 62619, IEC 62281, UN 38.3
Rated Energy	4.8 kWh		
Circuit breaker	200 A, BMS Controlled, single pole		
Operating Charging Temperature	0°C to +60°C		
Operating Discharging Temperature	-20°C to +65°C		
Heaters	2 x 55 W		
Boost Charge (CC/CV)	54.5 V		
Float Charge (CV)	56,4 (min)		
Cycle/Calendar Life	≥3000 cycle @1C (25°C) 70% SOH 10 years @0.5C (25°C) 70% SOH		

* Protocols can be customized according to the request

TAILORED TO
OUR FUTURE



VESTEL

**Organize Sanayi Bölgesi, 45030
Manisa/Turkey**

**Phone: 90 - 236 233 25 82
Fax: 90 - 236 233 25 84**

**vesteltrade@vestel.com.tr
www.vestelinternational.com**

FOLLOW US ON SOCIAL MEDIA



/vestelinternational