

IoT Smart Solution for Solar Inverter Case Study for **Energy Optimization**



Discover how Limitless Mobility Solutions is transforming energy management with Su-vastika's IoT Inverter Technology, driving efficiency, sustainability, and smarter power solutions.

About Limitless

We are a leading innovator in the field of advanced technology solutions, specializing in IoT-based systems, smart infrastructure, and energy management.

Our vision is to create sustainable, efficient, and scalable solutions that transform industries and improve lives. With a commitment to cutting-edge innovation, we empower businesses to stay ahead in an ever-evolving digital landscape.

Our mission is to provide intelligent, next-generation mobility and energy solutions that drive efficiency, sustainability, and convenience across industries.

About Customer

Su-vastika is a leader in renewable energy, specializing in high-efficiency solar solutions for homes and businesses. As demand for smarter energy management grows, they sought to integrate cutting-edge IoT technology for a seamless, intelligent energy experience.

Su-vastika partnered with Limitless Mobility Solutions to develop a Smart Inverter and companion mobile app that empowers users to monitor and optimize their energy consumption. This innovative solution offers real-time data, remote control, and energy-saving insights, ultimately helping homeowners reduce utility bills, improve energy efficiency, and contribute to a greener, more sustainable future sustainability, and convenience across industries.

The Solar Challenge

Su-vastika needed an advanced Smart Inverter that could efficiently convert solar energy while offering remote monitoring and control. They also required an intuitive mobile app to track energy production, manage consumption, and provide real-time insights.

Power your home, empower your life.

Introducing IoT mobile solution for Smart Inverters

Imagine a world where your home harnesses the sun's energy effortlessly, and you control it all with a tap on your smartphone. Sounds like science fiction? Think again! Su-vastika, a trailblazer in renewable energy, has turned this dream into reality with their ground-breaking smart inverter with our IoT Mobile App solution.

Our solution combined a state-of-the-art Smart Inverter with a powerful and intuitive mobile app, enabling users to remotely manage and monitor energy usage - anytime, anywhere.

Harness the power of the Sun, control it from your palm.

In today's world, simply generating solar energy is not enough, the real challenge lies in efficiently managing and optimizing energy consumption. Introducing Su-vastika's Smart Inverter - a marvel of modern engineering that does more than just convert solar energy. It's your personal energy management system, designed to

Optimize Solar Energy Conversion with Advanced Power Tracking

- ✓ Real-time tracking of solar energy conversion
- ✓ Dynamic adjustments for changing conditions
- ✓ Maximizes energy harvesting and system efficiency

Provide Real-Time Data Monitoring for Smart Management

- ✓ Continuous monitoring of energy production and consumption
- ✓ Predictive maintenance and early issue detection
- ✓ Data-driven insights for informed decision-making

Offer Seamless Grid-Tie Integration for Uninterrupted Power Supply

- ✓ Smooth integration with the electrical grid
- ✓ Bi-directional energy flow for reliability
- ✓ Automatically switches between solar and grid for continuous supply

Su-vastika's Smart Inverter uses Mobile IoT technology (LTE-M and NB-IoT) to provide low-power, wide-area connectivity through existing mobile infrastructure. This means seamless control and monitoring, even in remote locations but that's not all.

We've taken it a step further with our companion mobile app.

Power in your pocket

Our user-friendly mobile app for Android and iOS is like having a mini power plant in your pocket. With just a few taps, you can



01

Monitor Energy Production and Consumption in Real-Time

- Track your solar system's energy output and consumption 24/7
- Stay updated with live data to optimize energy use
- View performance metrics from anywhere via the mobile app

02

Control Your Smart Inverter Remotely

- Adjust inverter settings with ease, no matter where you are
- Fine-tune performance for maximum efficiency at the touch of a button
- Control multiple devices and locations from a single app

03

Access Detailed Energy Insights and Analytics

- Get comprehensive reports on energy production, consumption, and savings
- Identify trends and optimize energy usage based on actionable insights
- Make informed decisions for cost savings and improved system performance

04

Receive Customized Notifications About Your Energy Patterns

- Set up alerts for system performance, energy peaks, or maintenance needs
- Get notifications for potential issues or inefficiencies in your system
- Stay ahead of power disruptions with proactive alerts tailored to your usage

A smarter, greener future

We proudly present our IoT-based Smart Inverter, developed specifically for Su-vastika to enhance their energy management system with innovative, smart technology. Designed to offer real-time monitoring, automation, and energy efficiency, this inverter is a game-changer in power systems.

By choosing Limitless, you're not just investing in a product. You're embracing a smarter, more sustainable future



Enhanced user experience : Manage your energy with the ease of using your smartphone



Improved energy efficiency : Make informed decisions to reduce your carbon footprint and your utility bills



Remote accessibility : Control your energy usage even when you're miles away from home



Real-time insights : Understand your energy patterns like never before

Innovative hardware solutions

We have developed proprietary IoT hardware that seamlessly integrates with inverters, enabling efficient data capture and analysis. This IoT device functions as a sensor, collecting various parameters from the inverter. Data collected is processed and transmitted to a dedicated mobile app, compatible with both Android and iOS, allowing users to easily monitor energy generation, consumption, and efficiency metrics.

For reliable communication, our system employs two channels

➡️ **Bluetooth Connection for Instant Synchronization and Alerts**

- Provides seamless, real-time data synchronization between your Smart Inverter and mobile app
- Instantly notifies you of important system updates, alerts, and performance metrics
- Ideal for quick, on-the-spot monitoring and adjustments within close range of the inverter

➡️ **Wi-Fi Connection for Continuous Cloud-Based Data Transfer**

- Enables uninterrupted data transfer to a secure cloud platform for remote access and storage
- Ensures real-time backup of system data for advanced analysis and performance tracking
- Offers secure and convenient access to historical data, insights, and trends from anywhere, at any time
- Supports detailed analytics for long-term optimization and efficiency improvements



About the Limitless "Internet of Things" Programme:

Imagine a world where your devices seamlessly communicate, enhancing every aspect of your life. That's the vision driving the Limitless Mobility Solutions Internet of Things (IoT) Programme. This groundbreaking industry initiative is set to transform how we interact with technology, paving the way for a future brimming with innovative connected devices and services.

At its core, the Limitless Mobility Solutions IoT Programme is an ambitious industry initiative designed to accelerate the delivery of new connected devices and services. We're not just talking about smart homes or fitness trackers—we're envisioning an entire ecosystem where businesses and consumers benefit from an interconnected world of intelligent devices.

With the development of Su-vastika's Smart Inverter and accompanying Mobile App, we've delivered a powerful solution that empowers homeowners to manage and actively optimize their energy consumption. Together, we're paving the way for a greener, more efficient future.

For more information, visit - www.limitlessmobil.com

Join the energy revolution

Ready to take control of your energy future? Limitless Mobile App solution for Solar Inverter is your gateway to smarter, more efficient energy management



Signature Tower First Floor, Plot No 3 Sector, Knowledge Park III, Greater Noida, Uttar Pradesh 201308



contact@limitlessmobil.com



www.limitlessmobil.com



+91 63906 65408

