



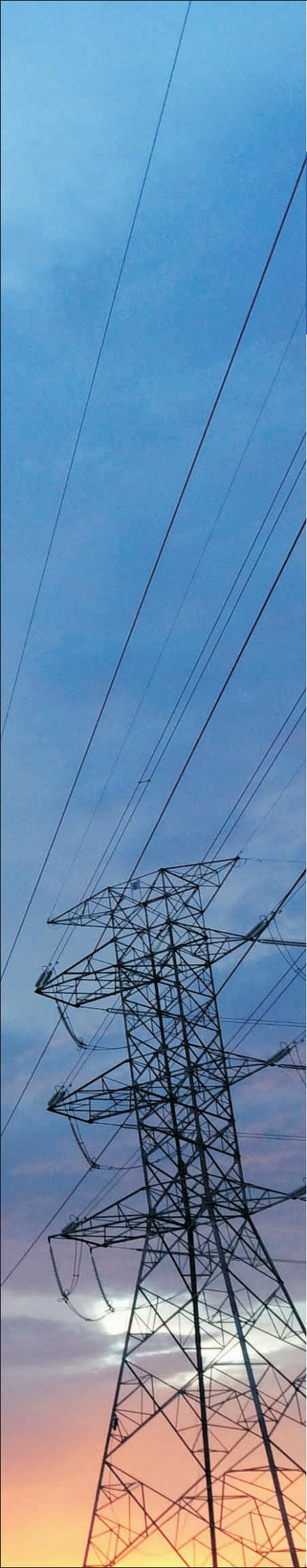
**SB ELECTRONICS ENGINEERING
AND CONTROL (PVT.) LTD.**

CORPORATE PROFILE

**what gets measured,
gets managed**

Q1	1,23,45,678	1,23,45,678	1,23,45,678
Q2	1,23,45,678	1,23,45,678	1,23,45,678
Q3	1,23,45,678	1,23,45,678	1,23,45,678
Q4	1,23,45,678	1,23,45,678	1,23,45,678
YTD	1,23,45,678	1,23,45,678	1,23,45,678





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WHAT GETS MEASURED, GETS MANAGED.

ABOUT US

SB Electronics Engineering and Control is a premium energy services company, established in 1996 as an offshoot of Syed Bhais (SB) Group. SB Group started business as a trading and manufacturing company in 1953 and soon established itself as a reliable name in the power sector of Pakistan. SBEEC (Pvt) Ltd currently provides a wide range of energy solutions, including but not limited to: design and implementation of energy-saving projects, energy management, energy infrastructure outsourcing, energy supply and risk management for Industrial, ICT, and Microgrid clients. It includes Smart Meters, Entrack Dashboards (Energy Management Portal), e3 (a program for energy efficiency enhancement), Smart Grid Billing Automation for Housing Societies, Solar, Microgrid Controller and Microgrid Solution (an optimal energy mix provider).

OUR VISION

THE WHY

Everything SBEEC does is devoted to one idea: to meticulously measure, monitor, and report electricity consumption in real-time. This will ensure fair transactions and generate insights based on consumption patterns to eliminate waste, to project future planning of electricity supply systems, and make electricity use highly efficient resulting in reduced costs.

Digitalize energy production, transmission, distribution, and consumption. To enable all stakeholders to transact with trust, confidence, and speed. To profitably make a carbon-neutral world by ensuring energy planning in the most efficient and reliable manner at enterprise and national level.

OUR MISSION

Digitalize energy sales, purchases, and consumption, and enable energy prosumers to operate with trust, confidence, efficiency, and speed.

Trust through candor, integrity, and respect for rights & responsibilities all across the organization, inside and out. Innovation & creativity in our value proposition for our customers through continuous learning and utilizing cutting-edge technology, delivering with happiness, passion, and perseverance. Always remember $1.01^{365} = 37.8$ & $0.99^{365} = 0.03$, and we believe in giving back to society through objectivity and sharing the learning in management, technology, and science.

OUR SOLUTIONS

SOLUTIONS	Commercial & Industrial	Telecom	Microgrid	Commercial Buildings	Housing Societies
BILLING AUTOMATION				✓	✓
SMART METERING AND IOT BASED MANAGEMENT	✓	✓	✓	✓	✓
HYBRID OPTIMIZATION of MULTIPLE POWER SOURCES (HOMPS)	✓	✓	✓	✓	✓
SMART ENERGY MANAGED SERVICES (SEMS)		✓			
Energy Efficiency Enhancement	✓				
ENERGY DASHBOARDDS	✓	✓	✓	✓	✓
SOLAR	✓		✓		✓
BATTERY ENERGY STORAGE	✓		✓		✓

CASE STUDIES



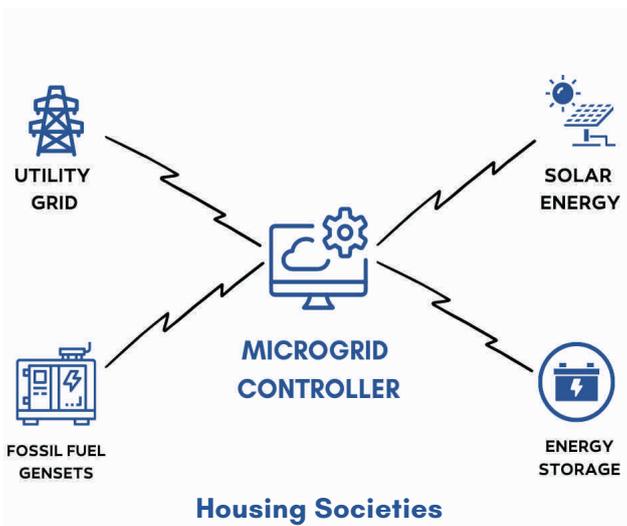
Commercial

Stylo Shoes

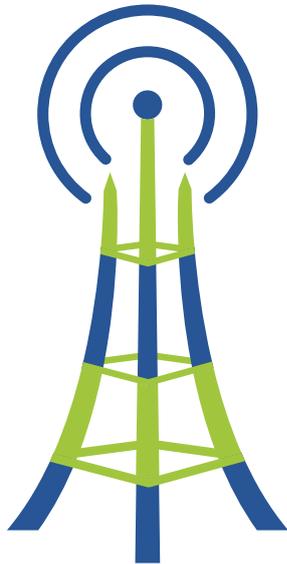
- Energy Monitoring and Management
- Daily, Monthly and Weekly Reporting
- DISCO Bill Reconciliation as per Actual Consumption
- Energy Dashboards and Actionable Reports
- Energy Wastage Reporting
- 50+ locations all over Punjab, further rollout in progress

Lake City

- Design of Microgrid
- Economic Analysis of Current Energy Mix
- Economic Analysis of Energy Mix with Solar, Battery Energy Storage (BESS) and Microgrid Controller
- Peak Consumption Shaving
- MDI Shaving
- Spinning Reserve Loads Management
- Load Fluctuation Management Solution



CASE STUDIES



Telecom

Telenor

- Energy Monitoring
- DISCO Bill Reconciliation
- Actionable Dashboards
- AC and DC Load Monitoring
- Multi-tenant Billing
- Smart Managed Services
- Loadshedding Reports and Diesel Reconciliation
- Network Operations Centre
- Software as a Service
- Managing 1300+ sites and saved more than PKR 1 billion for Telenor



Industrial

Millac

- Monitoring of Significant Energy Users (SEUs), such as HVAC, motors, machines, and furnaces, which brings a huge difference in Utility Bills
- Shift-wise and department-wise - comparison to shifts and departments
- Calculate energy cost of each product per unit of production
- Energy Profile
- Reporting on Energy wastage after department closure, or when the shift is over

CLIENTS LIST

MICROGRID



TELECOM



COMMERCIAL & INDUSTRIAL



OUR SERVICES

ENERGY MONITORING AND TRACKING

Energy Tracking and Monitoring of energy assets through the implementation of Smart Devices as per the latest industry products and practices.



SMART METER INSTALLATION AND TESTING

Installation service at the Customer Sites, along with quality assurance, testing, and periodic maintenance of smart metering assets.



ENERGY MANAGEMENT SERVICES

Measurement and optimization of Energy Consumption through Energy Audits as per ISO 50001, Efficiency Enhancement based on monitoring and validation processes, monitoring of multiple energy resources for OPEX optimization.



DISCO (UTILITY) BILL RECONCILIATION

Guaranteed Bill Reconciliation with DISCOs based on accurate energy consumption measurement and DISCO Meter monitoring. Also, we ensure that charges align with actual Tariffs thereby eliminating overbilling, wrong Tariffs applications, and overshoot MDI (fixed) charges or taxation

SMART METERING AND BILLING

Audit and quantification of all consumptions for customer sites and precise loss identification and recommendations for the reduction of common services/areas and losses. Also provide Smart Meter Programs with multiple payment plans, use Load Shedding Report to co-relate with Genset operation, and check for unauthorized usage.

ENERGY EFFICIENCY CERTIFICATION

Provide relevant energy certification to customers as per the latest industry standards ISO 50001, Green Building Certification for Energy optimization through Channel Partners.

MICROGRID DESIGN OPERATION & MANAGEMENT

- The SB Smart Microgrid Solutions are suited for the following sectors whether your Microgrid is Grid Connected, Islanded, or Hybrid:
- Housing Societies whether islanded or Grid-connected Industrial & Commercial enterprises with large loads and desirous of optimizing Energy Costs
- Educational or Mixed campuses such as hospitals, office complexes
- Emergency Services and Defense Microgrids for resilience and reliability with least cost solutions



GROUP AND INDIVIDUAL TRAINING ON ENERGY

Energy-related training for SBEEC/Entrack customers, engineers, and consumers interested in understanding energy systems including Energy Monitoring & Management as per ISO 50001, Energy Planning, Energy Audit, Microgrid Design, and Optimization on the latest software. In addition to this, renewable resources; Solar, Wind, Hydro design, operation training, and a wide scope of related Energy courses.

ENERGY PLANNING AND AUDIT

Audit of Customer Sites with a comprehensive plan to optimize energy consumption with future expansion strategies to ensure the most efficient cost structure.

INTELLIGENT LOAD SHEDDING SCHEME

Design and detailed engineering scheme for clients to shed non-critical loads, and by defining critical and non-critical in order to keep power sources running avoiding sudden pressure on them.

OTHERS

Load Switchover Solutions
Automated Billing Management System for Housing Societies
Smart Grid Projects
Energy Efficiency Enhancement Projects (e3) ISO 50001 Certification Preparation
Size of few kW to MW Scale
Enterprise Energy Planning with Least Cost Solution options
Base Case Energy Cost Studies and modeling with interval Data of Generations and Consumption
Injection of Solar, BESS (Battery Energy Storage System) options and variations simulation with NPC and NPV and IRR calculation
Operation adjustment according to changing economic conditions and loading needs to ensure the Least Cost energy solution availability continuingly.

Maintenance, and guaranteed energy output SLAs

Provide Energy Management and Services as per Service Level Agreements contracts with customers on a success and performance basis.

Solar System Design, Installation and O&M

Detailed design of the solar system with direct procurement by a customer of solar equipment while providing equipment technical specifications and supervision. Installation and complete commissioning of Solar systems with O&M if required by the customer.

Enterprise Energy Planning

Business level planning of energy for companies to increase their profitability.

Prepaid System (Tenant Resident Billing)

This solves customers issues of late payment collections from residents and avoids negative cashflows. STS based highly security prepaid systems allow revenue collection in advance in Pay to Use the model of Electricity Consumption.

Battery Energy Storage System (BESS)

Complete technical design, installation, commissioning and O&M of large scale battery energy storage systems with other sources within a Microgrid.

Hybrid Energy Solutions and Controllers

Solutions for optimization, automation and digitization of multiple power sources together to serve large loads.

OUR PRODUCTS



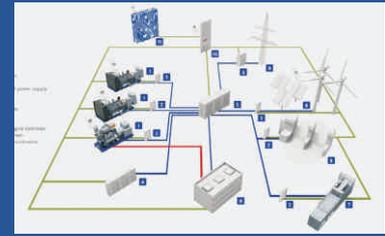
BUSINESS INTELLIGENCE ENERGY DASHBOARDS

Data from Smart Meters and Microgrid equipment is processed into customized Actionable data based on each customer's requirement to allow energy savings and increased efficiency.



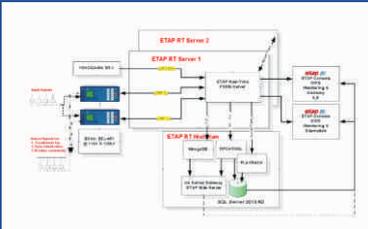
MULTICHANNEL DC AND AC METERS

These meters can measure multiple circuits in a single location. These are useful for reducing space and cost in a closed cluster of electrical circuits to be monitored.



MICROGRID SYSTEM CONTROL AND PROTECTION EQUIPMENT

Protections are necessary to ensure the safety of all equipment including legacy and new equipment for surges and fluctuations in a Microgrid of Multiple Power Sources.



POWER QUALITY MEASUREMENT

Perform power system studies to investigate unplanned outages, operational issues, and provide recommendations to improve system performance. Provide power management control system to avoid anomalies and unplanned outages due to disturbances in the supplying utility, adequate visualization, and controls of the interconnection tie to the Grid including the complete Power system. This also includes the study of robustness, sensitivities, risks, and resilience of the power system supply.



PV SOLAR EQUIPMENT DIRECTLY SOURCED FOR CUSTOMER

All solar equipment is directly sourced by the client from the manufacturing companies so the project equipment capital expenditure is the least for the customer.



POWER CONVERSION SYSTEMS (PCS)

Power Conversion Systems for Battery Energy Storage Systems control rate of charge and discharge of batteries allowing the optimum functioning, smart function and long life of the battery.

SMART METERS

PSQCA Certified, DC AND AC load meters GPRS, RF, PLCbased AMI Meters integrated with SB Entrack Data Acquisition and Reporting Software. Manufactured to IEC standards and conforming to the PSQCA quality standards. Certified by independent laboratories to IEC 62052-11, 62053-11, 62053-21, 62053-22, and all other relevant IEC standards including EMC tests.



BATTERY ENERGY STORAGE

To store low-cost energy for utilization as per requirements

WEATHER STATION AND IOT SENSORS

Data from these devices is used along with Solar and Battery Energy Systems to manage and plan Solar and Battery output requirements as per the load based on expected and forecasted variations in the weather and the environment. Data from these sensors is fed into the MicroGrid Controller where the Controller takes actions accordingly.

METER BOXES

IP54 Protection of Meters at Customer Sites.



PREPAYMENT METERS

Smart Meters with Prepayment Features for Credit Vending (STS as per IEC 62055- 41) for Customers and Generally controlled and maintained by SBEEC.

- Single Phase
- Three Phase



CTS AND PTS

Current and potential transformers of accuracy class 0.2 and 0.5 for metering applications; an integral component of energy management solutions.



MICROGRID CONTROLLERS

Smart devices that ensure reliable, safe, and efficient microgrid power generation and distribution by helping coordinate and optimize system functions with AI capabilities.

PROFESSIONAL AFFILIATES



"Board of Directors of the Indus Entrepreneurs Lahore Chapter"



"Patron of Association of Energy Engineers Pakistan Chapter"



"Pakistan Telecom Authority Certification"



THE LAHORE CHAMBER OF COMMERCE & INDUSTRY

"Official Business Group of Lahore"



"Lifetime member of Institute of Electrical and Electronics Engineer"



PSQCA

"Pakistan Standard and Quality Control Certified Products"



"Pakistan Engineering Council Certified"

COMMERCIAL COLLABORATORS



"Detailed Power Design and Analysis"



"Smart Meter Manufacturers"



"Solar PV Panels Supplier"



"Microgrid Controls"



"Intelligent Dynamic Energy Management of BTS Tower Equipments"



"Solar PV Panel Supplier"



"Data Software Platform"



"Solar PV Inverters"



"Telecom Services Provider"



"Solar PV Inverters and Batteries manufacturers"



"Battery Energy Storage and Power Conversion Systems Company"



HOMER
Pro

"Microgrid Design and Engineering Company"

Energy Training and Research Centre (ETRC)



Energy training and research center (ETRC) is a not-for-profit organization that emerged out of the merger of an already well-established energy training center and PRENAC (www.prenac.org), in order to have one integrated platform with the addition of research area to enhance its capacity toward energy training and research portfolios. Led by Engineer Faiz Bhutta, who serves as the CEO, ETRC is a sister company of SBEEC.

The focus of energy training will be towards green, clean, and fossil-free energy, and the research focus will be on energy policy, regulations, markets, and standards. Vocational training, including Solar PV Installation and Design, is also part of the curriculum offered. With a state-of-the-art testing lab, ETRC holds licenses for energy training by PEC and AEE USA.

Here's a list of some of the popular courses offered by ETRC regularly:

- Solar Photovoltaic
- Renewable Sales & Business
- Energy Economics & Finance
- Solar Lighting Systems
- Solar Pumping Systems



OUR CORE TEAM

Our highly qualified, motivated and experienced team is devoted to one idea: to meticulously measure, monitor, and report electricity consumption in real-time so that it can ensure fair transactions and generate insights based on consumption patterns to eliminate waste, to project future planning of electricity supply systems, and make electricity use highly efficient resulting in reduced costs while achieving the goal towards a carbon-neutral world.

Masroor Ahmad Khan

Chairman of SB Group and Mentor of SBEEC



Mr. Khan is an Electrical Engineer with a BSc degree from Syracuse University, USA and a Master's degree in Electrical Engineering from Cornell University, the USA, and over 35 years of experience in establishing and running the largest Meter Manufacturing Operation in Pakistan

Wazir Ali Khan

CTO



Mr. Wazir is an Electrical Engineer from Purdue University, USA. He is responsible for leading all Technology operations of the company including maintenance and up-gradation of technical assets, and for the incorporation of industry-leading software and technology into company operations.

Moiz Ahmad Khan

CCO and Head of HR



Mr. Moiz is an Economics and International Affairs Major from George Washington University, USA. He has experience working in the SA at Barclaycard and SWIFT and has spearheaded commercial growth since 2014, furthering business development, diversification, and value-added partnerships.

Fahim Majid

GM Finance



Mr. Fahim has a MS Economics from Punjab University along with a Cost and Management Accounting Certification in 1985. He has over 36 years of experience in running the Finance Departments, Internal Audits, and Corporate Affairs in renowned Companies of Pakistan

Ahmed Khurshid

GM Operations



Mr. Ahmed has a MSC (Computer Science) from the University of Lahore, with 18 years of experience in the Information Communication & Technology (ICT) industry such as Energy, Utilities, Telecom, Health, Defense, and Education sectors

Rafaqat Ali Khan

Senior Manager Energy Portfolio and Sales



Mr. Rafaqat is an Electrical Engineer with a Master's in Business Management. With 17+ years of top Cellular & Energy Industry experience, he worked on many projects in Cellular Rollout, Management Services, Operation Excellence, Energy Opex Control and Delivery at Multi-National companies. He has led the Solar Project and has the expertise for Industrial Grade Solar Energy Budgeting. In SBEEC, he is the prime interface for Technical and Commercial assistance in the ICT and Energy sectors.

Faisal Ayub

Manager Energy Projects & Services



Mr. Faisal is an Electrical Engineer from Bahria University Islamabad. He is in charge of managing and executing our projects within budget and on time. He also has experience in conducting electrical safety, energy audits and creating, developing, monitoring, and analyzing dashboards to offer energy-saving solutions.

Muhammad Iftikhar

Chief Engineer Smart Grid (CESG)



Mr. Iftikhar is an Electrical Engineer with 31 years of experience in the industry. He also has experience in the generation, distribution, and protection of Power Systems. Added to that he is well versed with SCADA, EMS, Microgrids, and Renewables Design (MV and LV networks for industrial and commercial sectors).

Muhammad Awais

Sales Engineer



Mr. Awais is an Electronics Engineer from Government College University. He has 4+ years of experience as a Sales Engineer with some renowned multinationals. At SBEEC, he looks after the development of clients in the Commercial and Industrial (C&I) segment.

Suleiman Khalid Naqvi

Manager Entrack System



Mr. Suleiman has a BSc in Engineering from Beihang University (BUAA). He has a strong background in Data Science with vast experience in building data intensive applications, overcoming intense architectural and scalability issues in diverse industries. His responsibilities cover designing data modeling processes to create and manage SBEEC's data architecture, performing custom analysis and identifying trends.



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