



COMPANY PROFILE

Together, We Turn Possibilities Into Reality.



EMPOWERING THE FUTURE OF ENERGY

At Emerald Tech Engineering, we are dedicated to providing reliable, safe, and innovative solutions for the energy transition. With expertise in plant operations, high-voltage systems, and renewable energy, we deliver operational excellence and long-term performance. We look forward to partnering on projects that shape the future of energy.

2026

THE HISTORY

An aerial photograph of a renewable energy farm. In the foreground, there are several rows of solar panels installed on a grassy field. In the background, several large wind turbines are visible, standing tall against a blue sky with scattered clouds. The overall scene depicts a sustainable energy landscape.

INTRODUCTION

Welcome to Emerald Tech Engineering, a leader in powering the future with innovative and sustainable energy solutions. With nearly two decades of experience, we specialize in high-voltage systems, grid modernization, and renewable energy, providing reliable and efficient services to drive the energy transition.

Our mission is to bridge the gap between traditional infrastructure and the digital future, combining technical excellence with cutting-edge technology to optimize energy systems, enhance grid stability, and integrate renewable energy. At Emerald Tech Engineering, we are committed to delivering data-driven, sustainable solutions that shape the future of energy.

FOUNDER

Ir. Saravanan Sivanandhan



Ir. Saravanan Sivanandhan is the Founder and Managing Director of Emerald Tech Engineering, with over 18 years of expertise in grid modernization, high-voltage systems, and renewable energy. As a recognized thought leader in power engineering, he has played a pivotal role in shaping the future of energy integration.

His leadership has driven Emerald Tech to pioneer innovations like EV load forecasting and location intelligence, bridging the gap between renewable energy generation and electric vehicle infrastructure. Ir. Saravanan's hands-on experience spans plant operations, emergency response management, and strategic planning, ensuring both efficiency and safety in high-voltage environments.

An alumnus of Melbourne Business School and University of Tenaga Nasional, Ir. Saravanan is dedicated to advancing grid modernization and driving sustainable energy solutions for a decarbonized future.

OUR MISSION & VISION

VISION

Our vision is to lead the global energy sector, shaping a sustainable future by integrating advanced technologies and renewable energy solutions for resilient, efficient energy systems.

MISSION

Our mission at Emerald Tech Engineering is to drive the energy transition by providing sustainable, reliable, and innovative solutions in grid modernization, high-voltage systems, and renewable energy integration.



OUR APPROACH

At Emerald Tech Engineering, we are committed to delivering sustainable, reliable, and innovative energy solutions. Our approach combines technical expertise with cutting-edge technology to optimize energy systems and drive the global transition to renewable energy.



- **OPERATE**
Ensuring long-term reliability through effective management of energy generation and grid stability.
- **OPTIMIZE**
Refining systems and processes for maximum efficiency, cost reduction, and enhanced performance.
- **INTEGRATE**
Seamlessly incorporating renewable energy solutions with traditional infrastructure for a future-ready energy grid.
- **COMPLY**
Adhering to industry regulations and standards, ensuring full compliance with all safety and operational protocols.
- **ADVISE**
Offering strategic guidance to help clients navigate the complexities of modern energy systems.
- **EDUCATE**
Empowering stakeholders with the knowledge and tools to optimize and maintain energy systems efficiently.

OUR EXPERTISE

Emerald Tech Engineering combines deep technical expertise with innovative solutions to address the evolving energy landscape. Our specialized knowledge spans a wide range of energy sectors, enabling us to deliver high-performance solutions for today's energy challenges.



PLANT OPERATIONS & MAINTENANCE:

We offer comprehensive plant operations and maintenance services to ensure the efficient, safe, and reliable performance of energy facilities. From real-time management to predictive maintenance, we help optimize energy generation, minimize downtime, and extend the lifespan of equipment.

ENERGY EFFICIENCY & SUSTAINABILITY

Tailored solutions to optimize energy use, reduce environmental impact, and enhance sustainability for commercial and industrial facilities.



A photograph of a silver car parked at a white EV charging station. The station has the brand name 'Powerdo' written vertically in blue. A black charging cable is plugged into the car. The background shows a paved area, green grass, and several trees with green leaves, suggesting a park or a modern urban setting.

ADDITIONAL EXPERTISE

In addition to our core services, Emerald Tech Engineering offers specialized expertise to address emerging energy challenges and opportunities, helping clients stay ahead in an evolving energy market.

Electric Vehicle (EV) Industry Solutions

- EV Charger Location Intelligence: Optimizing the placement of EV charging stations based on data-driven insights.
- EV Load Forecasting: Advanced modeling to predict and manage energy demand from electric vehicles.

Energy Storage Solutions

- Consulting and engineering services for stationary energy storage systems, ensuring efficient use of renewable energy and enhancing grid resilience.

Smart Grid Technologies

- Implementing advanced grid systems to improve energy distribution, enable real-time data analysis, and optimize energy consumption across sectors.

TRACK RECORD - PLANT MANAGEMENT

Emerald Tech Engineering currently manages 6 solar power plants, delivering reliable plant operations, grid compliance, and performance optimisation across all facilities.

PLANTS UNDER OUR MANAGEMENT

- **Asia Bina Solar – Parit Buntar, Perak**
Capacity: 50 MW
- **Ranhill Solar – Bidor, Perak**
Capacity: 50 MW
- **Daya Sinar Solar – Kuala Muda, Kedah**
Capacity: 30 MW
- **Solar Scape – Kuala Muda, Kedah**
Capacity: 30 MW
- **Summer Solar – Kampar, Perak**
Capacity: 30 MW
- **Bright Winter – Kampar, Perak**
Capacity: 30 MW

OUR RESPONSIBILITIES

- **Grid Compliance**
Managing plant operations in compliance with the Malaysian Grid Code.
- **Electrical Switching & Emergency Response**
Handling 132kV and 33kV electrical switching and emergency operational response.



- **Plant Performance Optimisation**
Monitoring generation performance to ensure maximum plant availability and production.
- **Plant Operations & Maintenance**
Managing daily plant operations and coordinating maintenance activities.
- **Safety Management**
Ensuring strict safety procedures and zero-harm working environment.

RANHILL SOLAR (BIDOR, PERAK) – 50 MW

Key Management and Operational Highlights:

1. Grid Integration & Compliance:

- We ensure seamless grid integration and adherence to the Malaysian Grid Code, enabling reliable power delivery to the national grid.

2. Emergency Response & Power Switching:

- Our team is equipped to handle emergency power outages and electrical switching operations, minimizing downtime and maintaining the plant's stability.

3. Energy Production Optimization:

- Continuous monitoring and optimization of energy generation, ensuring the plant consistently operates at peak capacity throughout the year.

4. Safety Protocols:

- We implement strict safety protocols across all operations, maintaining a zero-harm environment for staff and equipment.

5. Regular Performance Audits & System Upgrades:

- Conducting periodic performance audits and identifying system upgrade opportunities to enhance plant efficiency and sustainability.

6. Long-Term Sustainability:

- Focusing on sustainable operations, we integrate new technologies and improvements to ensure the plant's long-term performance and alignment with evolving energy standards.

IB VOGT MALAYSIA (DAYA SINAR & SOLAR SCAPE – KUALA MUDA, KEDAH) – 30 MW

Key Management and Operational Highlights:

1. Grid Integration & Compliance:

- We ensure that the solar plants are seamlessly integrated into the national grid, adhering to Malaysian Grid Code and ensuring consistent power delivery.

2. Emergency Response & Electrical Switching:

- Our team is equipped to handle emergency power outages and perform electrical switching operations, ensuring minimal downtime and quick restoration of services.

3. Performance Monitoring & Optimization:

- Continuous monitoring and optimization of energy generation, ensuring the plants operate efficiently and at peak performance throughout the year.

4. Safety Protocols:

- Continuous monitoring and optimization of energy generation, ensuring the plants operate efficiently and at peak performance throughout the year.

5. Regular Audits & System Improvements:

- We conduct periodic performance audits, identifying areas for system upgrades and integrating emerging technologies to enhance plant efficiency and sustainability.

6. Sustainability & Long-Term Operations:

- Focusing on long-term sustainability, we integrate energy-efficient technologies and improvements to ensure the plant's continued success and contribution to Malaysia's renewable energy goals.

TRACK RECORD ENGINEERING SERVICES

Emerald Tech Engineering has successfully delivered a wide range of engineering services, demonstrating our expertise in optimizing energy systems and supporting the renewable energy transition. Our team provides consulting, design, and implementation services, ensuring high-quality and sustainable solutions.

220 MW CONSULTING:

- Delivered expert consulting for Asia Bina Group, Ranhill Power, and IB Vogt, focusing on generating license applications, ensuring compliance, and optimizing plant performance.

POWER QUALITY STUDY FOR ETIKA MALAYSIA:

- Conducted an in-depth power quality study, identifying key areas to enhance plant reliability and performance, ensuring stable energy distribution.



FEASIBILITY STUDY FOR FLOATING SOLAR:

- Led a feasibility study for the 15 MW floating solar project in Batang Berjuntai, Selangor, evaluating technical, environmental, and economic viability.

SOLAR PLANT DESIGN & INSTALLATION ADVISORY:

- Provided advisory for the design, build, and commissioning of 22 MW solar farms in Sandakan, Sabah, ensuring efficient integration of solar power into the grid.

Our engineering services deliver innovative, data-driven solutions that ensure efficiency, compliance, and long-term sustainability across energy projects.



SUPPLY & PREFABRICATION OF INSULATION MATERIALS:

- For Semarang GTG under OGPC (M) Sdn Bhd, ensuring the delivery of high-quality materials for energy generation facilities.

ONSITE POWER QUALITY & ENERGY MONITORING SERVICES:

- Provided monitoring and recording services for the SAMUR Project under OGPC (M) Sdn Bhd, optimizing plant efficiency and ensuring consistent energy production.

SOLAR PANEL INSTALLATION & STRUCTURAL WORKS:

- Installed solar panels and handled structural works for key projects, including KLIA Satellite Terminal and Mount Ground Solar, ensuring reliable, sustainable energy solutions.

SUPPLY OF ELECTRICAL EQUIPMENT FOR OFFSHORE PLATFORMS:

- Supplied Flame Retardant, Mud Resistance Cable and Heat Tracing Packages for the Bertam Wellhead Platform, meeting offshore safety and performance standards.

Our procurement and supply services ensure the successful delivery of materials and systems critical to the success of energy projects, enhancing efficiency and meeting strict industry standards.

TRACK RECORD - PROCUREMENT & SUPPLY

Emerald Tech Engineering has a strong track record in procurement and supply, providing critical materials and services for large-scale energy projects. Our expertise ensures that all procurement activities are executed on time, within budget, and to the highest quality standards.

BUSINESS AREAS

RENEWABLE ENERGY:

- Specializing in solar, wind, and energy storage solutions, we drive the integration of renewable energy into existing infrastructures, creating a sustainable energy future.

GRID MODERNIZATION:

- Providing cutting-edge smart grid technologies, we optimize energy distribution, enhance system efficiency, and improve grid stability for future energy demands.

ENERGY EFFICIENCY:

- Tailoring energy optimization solutions for commercial and industrial clients, we help reduce operational costs while improving sustainability through energy - efficient systems.

Emerald Tech Engineering specializes in a range of energy solutions, delivering innovative and sustainable services across multiple sectors. Our expertise spans from renewable energy integration to smart grid technologies, enabling us to support the global energy transition.



SMART GRID:

- We support energy optimization in urban environments, including the implementation of EV charging infrastructure, smart grids, and renewable energy systems to create connected, sustainable cities.

Our diverse range of business areas ensures that we can address the full spectrum of energy challenges, delivering integrated, innovative, and sustainable solutions for a cleaner, greener future.

KEY SERVICES

Emerald Tech Engineering offers a wide range of services designed to meet the evolving needs of the energy sector. From renewable energy solutions to grid modernization, our services ensure efficiency, sustainability, and innovation across all projects.



These key services allow us to provide comprehensive, innovative solutions that optimize energy systems and support the global transition to a sustainable energy future.

- **ENERGY GENERATION:**
Expertise in solar, wind, and hydropower projects, providing efficient, sustainable energy generation systems that meet the needs of today and the future.
- **ENERGY DISTRIBUTION:**
Implementing smart grid technologies to optimize energy distribution, improve grid reliability, and manage energy demand across multiple sectors.
- **SYSTEM INTEGRATION:**
Seamlessly integrating renewable energy solutions with traditional systems, ensuring a flexible, efficient, and future-ready energy infrastructure.
- **CONSULTING AND ADVISORY:**
Offering strategic guidance and consulting services on energy efficiency, grid modernization, regulatory compliance, and sustainable energy practices.
- **ENERGY STORAGE SOLUTIONS:**
Designing and implementing energy storage systems that enhance grid stability and allow for more efficient use of renewable energy.

OUR TEAM

At Emerald Tech Engineering, our leadership team combines deep technical expertise with visionary leadership to drive innovation and excellence in the energy sector. Our experienced engineers, project managers, and support staff work collaboratively to deliver sustainable energy solutions that meet the demands of today and tomorrow.

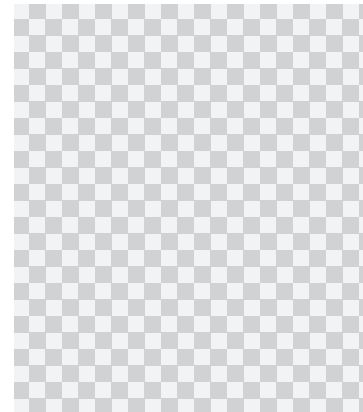


IR. SARAVANAN SIVANANDHAN

CEng – Founder & Managing Director

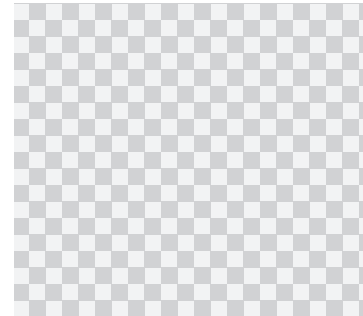


With over 18 years of experience in grid modernization, renewable energy, and high-voltage systems, Ir. Saravanan leads strategic initiatives, driving growth and innovation at Emerald Tech Engineering. His technical expertise and visionary leadership have been instrumental in the company's success.



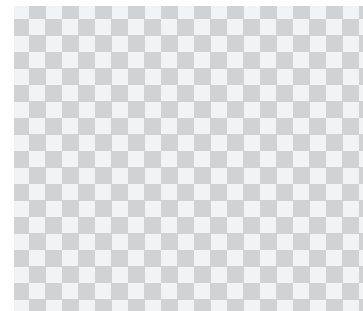
TECHNICAL EXPERTS

Our team of highly skilled engineers and consultants are experts in renewable energy integration, high-voltage systems, smart grids, and energy storage. They work together to deliver optimal solutions that ensure efficiency, sustainability, and long-term performance.



PROJECT MANAGERS

Experienced professionals who oversee the execution of large-scale energy projects. They ensure each project is delivered on time, within budget, and meets the highest standards of quality and safety.



SUPPORT STAFF

Our dedicated support team ensures the smooth operation of our projects, from administrative tasks to customer relations, helping us maintain strong relationships with clients and stakeholders.

Together, our leadership and team foster a culture of innovation, collaboration, and technical excellence, driving Emerald Tech Engineering forward as a leader in the energy sector.



SAFETY STANDARDS

At Emerald Tech Engineering, safety is at the core of everything we do. We are committed to maintaining the highest safety standards across all projects to protect our teams, clients, and the communities we serve. Our goal is to ensure zero-harm environments while delivering reliable, efficient, and sustainable energy solutions.

INDUSTRY-LEADING SAFETY PROTOCOLS:

- We adhere to the most stringent safety standards, ensuring all projects comply with local and international safety regulations.

COMPREHENSIVE SAFETY TRAINING:

- Continuous safety training for all team members ensures they are equipped to handle potential hazards and respond effectively to emergencies.

ROUTINE SAFETY AUDITS:

- Regular safety audits and inspections are conducted to identify risks and proactively implement corrective actions.

EMERGENCY RESPONSE PLANS:

- We have comprehensive emergency response plans in place, including high-voltage switching and fault management protocols, ensuring safe operations in all conditions.

Our commitment to safety ensures that every project is executed with the utmost care, protecting both our people and the environment. At Emerald Tech Engineering, safety isn't just a priority—it's a fundamental value.

OUR GALLERY

Explore our visual journey at Emerald Tech Engineering, showcasing the projects, innovations, and milestones that define our commitment to shaping a sustainable energy future. Our gallery features images from the frontlines of energy transformation, highlighting our work in renewable energy, grid modernization, plant management, and more.

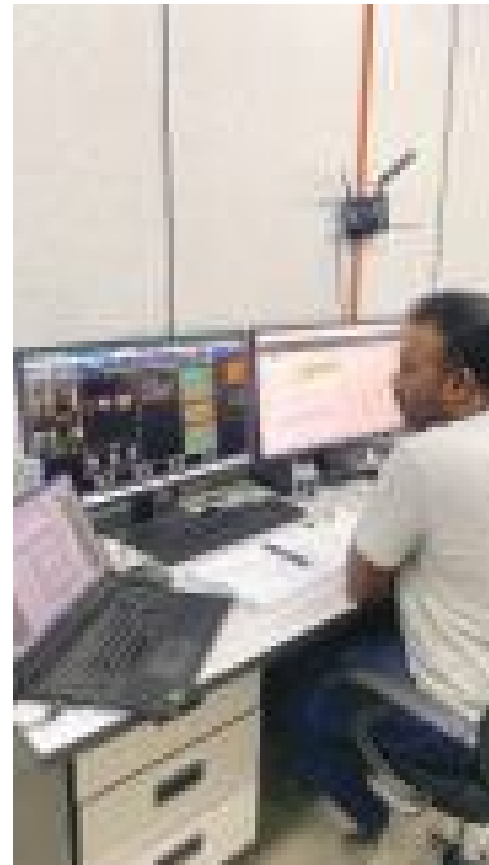


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BUILDING A SUSTAINABLE ENERGY FUTURE TOGETHER



At Emerald Tech Engineering, we specialize in high-voltage systems, grid modernization, and renewable energy solutions, delivering safe, reliable, and sustainable engineering services for a greener tomorrow.

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