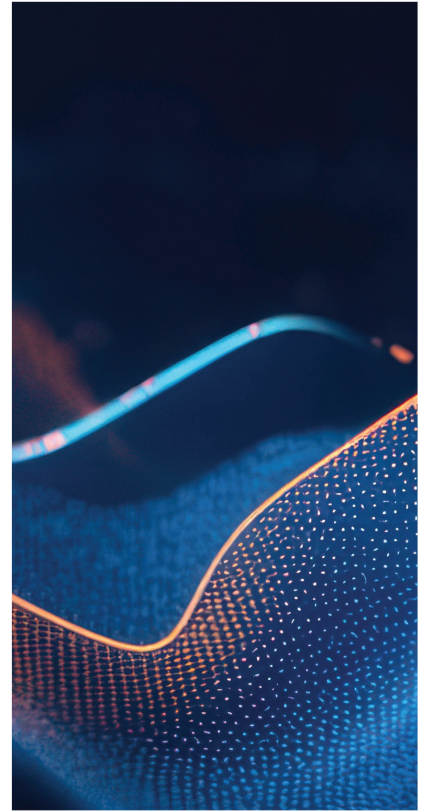
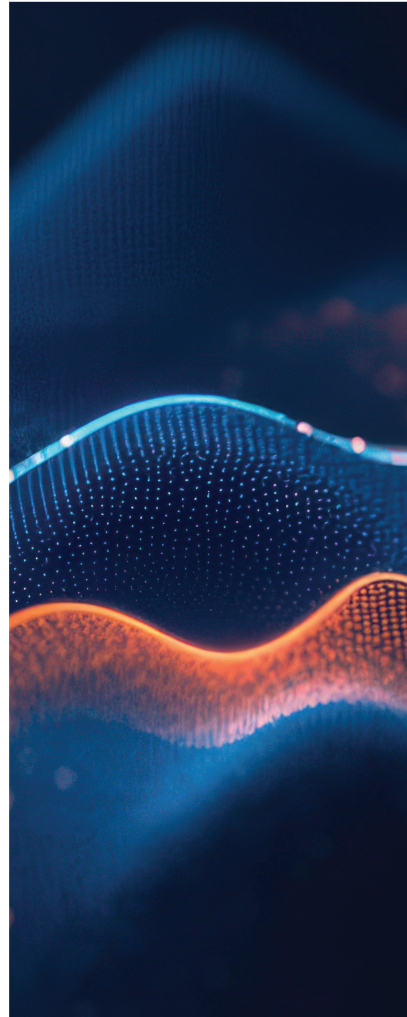


FROST & SULLIVAN
BEST PRACTICES



2026

APAC
EV FLEET CHARGING
MANAGEMENT SOLUTIONS

**TECHNOLOGY INNOVATION
LEADERSHIP**



ITRI
Industrial Technology
Research Institute

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Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. NeoPower Technologies and Industrial Technology Research Institute collectively demonstrate excellence across many of the criteria in the EV fleet charging management solutions space.

RECOGNITION CRITERIA	
<i>Business Impact</i>	<i>Technology Leverage</i>
Financial Performance	Commitment to Innovation
Customer Acquisition	Commitment to Creativity
Operational Efficiency	Stage Gate Efficiency
Growth Potential	Commercialization
Human Capital	Application Diversity

The Transformation of the EV Fleet Charging Management Solutions Industry

The Asia-Pacific (APAC) electric vehicle (EV) fleet charging management solutions industry is advancing rapidly, driven by aggressive electrification targets, urban density, and strong government incentives across key markets such as China, Japan, India, and Southeast Asia. However, this growth is accompanied by a complex and highly fragmented operating environment. One of the most pressing challenges is the imbalance between accelerating EV adoption, particularly in commercial fleets, and the expansion of charging infrastructure, resulting in capacity constraints, uneven charger distribution, and persistent access gaps across regions. In addition, the region faces structural issues such as high infrastructure installation costs, inconsistent regulatory frameworks, and interoperability limitations between charging networks, all of which complicate large-scale deployment and seamless operations. These challenges are further amplified for fleet operators, who must manage concentrated charging demand, depot electrification requirements, and grid capacity limitations within already congested urban environments.

Beyond infrastructure, operational and economic complexities present significant barriers to efficient fleet electrification. Fleet operators must navigate volatile electricity pricing, rising insurance costs, and uncertain total cost of ownership models, which increasingly challenge the economic viability of large-scale EV adoption. At the same time, the operational nature of fleet charging, unlike individual consumer charging, requires sophisticated coordination of vehicle schedules, battery states, and power allocation to avoid downtime and service disruptions. This creates a critical need for intelligent, software-driven energy management systems that optimize charging efficiency in real time. Fleet operators often struggle

with how to manage charging without significant manual intervention or operational complexity, particularly when scaling across multiple vehicles and locations. Collectively, these challenges underscore that the future of APAC EV fleet charging will not be determined by infrastructure expansion alone, but by the ability to intelligently orchestrate energy, operations, and ecosystem integration at scale.

“NeoPower is actively extending its presence into international markets including Japan, Southeast Asia, Europe, and the United States, leveraging partnerships to enable efficient entry and scaling. Its Japan strategy reflects a forward-looking market entry approach, focusing on fleet applications ahead of expected electrification acceleration. By establishing early partnerships, the company positions itself to capture growth as the market matures.”

- Lily Zhou
Mobility Research Analyst

Founded as a university spin-off rooted in advanced energy management research, NeoPower Technologies (NeoPower) is a Taiwan-based company specializing in intelligent EV fleet charging management solutions. Leveraging deep domain expertise, a software-first architecture, and proprietary algorithm-driven optimization, the company delivers fully automated charging systems that enhance operational efficiency, reduce costs, and simplify complex fleet electrification challenges. NeoPower's commercialization has also benefited from Taiwan's broader intelligent-charging innovation ecosystem, in which Industrial Technology Research Institute (ITRI) serves as a key technology and

validation partner. Through cross-disciplinary collaboration between its Mechanical and Systems Research Laboratories and Information and Communications Research Laboratories, ITRI has developed intelligent charging capabilities spanning non-uniform power allocation, AI-based charging analysis, battery-life management, remote monitoring, and rapid circuit protection. These complementary capabilities provide a stronger technical and validation foundation for deploying smart fleet-charging solutions in demanding operational environments. Through its platform-centric approach and expanding ecosystem capabilities, including SmartHUB integration and emerging energy aggregation services, NeoPower is redefining how EV charging infrastructure is managed, scaled, and monetized across modern mobility systems.

NeoPower's intelligent EV fleet charging management solutions optimize charging resources and operations. Furthermore, the generated operational data will help better manage charging loads, improve energy efficiency, and establish smarter and more stable urban energy systems. This data will also accelerate the development of digital ecosystem, such as Internet of Things, big data analytics and cloud computing.

Engineering Intelligence through Academic Precision

NeoPower's innovation trajectory is anchored in a distinctive academic-to-commercial foundation that fundamentally shapes its approach to technology development and problem-solving. Originating as a research initiative from National Taiwan Normal University, the company brings deeply embedded scientific rigor and domain expertise in energy management that continues to underpin its solutions. This academic lineage actively informs NeoPower's engineering discipline, enabling it to translate theoretical energy optimization principles into practical, deployable solutions for real-world EV ecosystems.

At the core of NeoPower's innovation leadership is its proprietary expertise in energy management algorithms, which serve as the backbone of its EV fleet charging solutions. Rather than competing in capital-intensive hardware domains, the company made a deliberate pivot to a pure software-focused model. This reflects strong technical clarity and creative foresight, enabling NeoPower to concentrate on high-value intelligence layers such as dynamic load balancing, real-time charging prioritization, and predictive optimization, positioning it as an orchestrator of charging ecosystems.

This capability is demonstrated through NeoPower's cloud-based algorithmic charging system, which integrates real-time inputs, including battery state, route schedules, and operational timelines, to dynamically allocate charging resources. The system autonomously identifies priority vehicles and redistributes power accordingly, transforming charging operations into a proactive, self-optimizing system.

A defining characteristic of NeoPower's innovation approach is its emphasis on simplifying complex energy challenges. While the underlying technology is highly sophisticated, the company prioritizes usability, designing solutions that enable operators to manage complex systems without technical burden. This balance of complexity and simplicity is central to its innovation differentiation.

NeoPower's human capital model further reinforces its innovation capability. The company operates with a lean but highly specialized team of engineers and academic researchers, enabling rapid iteration and focused development. Its academic roots also foster a continuous innovation mindset grounded in experimentation and refinement.

NeoPower's innovation engine is reinforced by collaboration with ITRI, whose contribution extends beyond advanced battery analytics. ITRI's cross-disciplinary research team has developed a 3S intelligent-charging technology framework centered on SMART control, SAVE-oriented energy efficiency, and SAFE protection. Its work includes non-uniform charging to reduce contracted power requirements, AI-enabled analysis to smooth charging operations and support battery-life management, and remote monitoring with microsecond-level circuit protection. ITRI reports that these technologies can reduce the grid power burden by 50%, lower operating costs by more than 20%, and extend battery service life by approximately 20%. These capabilities complement NeoPower's software platform and charging-management algorithms, strengthening the technical basis for intelligent power allocation, battery-aware scheduling, operational safety, and scalable fleet deployment. Together with other ecosystem partners, including Panasonic and the Institute of Transportation (IOT) under the Ministry of Transportation and Communications (MOTC), this collaboration connects academic research, applied engineering, and commercial implementation across Taiwan's mobility and energy ecosystem.

Beyond its role as a research partner, ITRI has served as a foundational technology enabler for Taiwan's intelligent charging ecosystem. Its long-term investments in applied research, technology validation, and charging interoperability have helped establish capabilities that underpin large-scale fleet electrification initiatives across Taiwan.

Recognition through awards jointly received by NeoPower and ITRI, including the Asia-Pacific Economic Cooperation Energy Smart Communities Initiative Smart Transport Gold Award and

Edison Awards, provides independent validation of their technological innovation, industry impact, and collaborative achievements in advancing intelligent fleet-charging solutions in Taiwan.

From Proven Innovation to Scalable Market Impact

NeoPower moves from product development to commercial deployment through a clear sequence: validating its technology in demanding environments, converting those deployments into repeatable wins, and expanding into adjacent revenue streams. The results are visible in how each phase translates into concrete market traction.

By embedding its solution within Taiwan's public-transport electrification program, including electric-bus initiatives, NeoPower entered a segment in which charging coordination is complex and mission-critical. ITRI played a pivotal role in bridging research and market deployment by developing demonstration sites, validating technical feasibility, supporting industry trials, and assisting IOT in establishing a demonstration environment for charging-standard verification. In an electric-bus operating site serving 64 vehicles, the intelligent-charging approach reduced contracted power demand by 50% and generated reported annual operating-cost savings of approximately 20%. This real-world validation helped demonstrate how intelligent charging could address constrained feeder capacity, limited depot space, heterogeneous charging interfaces, and complex fleet dispatch requirements. The collaboration therefore provided not only technical support but also an applied pathway from research, through field validation, to scalable commercial adoption.

From these initial deployments, NeoPower expanded across multiple bus operators and charging sites. The shift from pilots to ongoing commercial contracts indicates a technically viable and operationally scalable solution. Adoption has progressed without significant friction, suggesting strong product-market fit and an effective go-to-market strategy.

At the same time, the company broadens its offering beyond core charging management. The introduction of the SmartHUB platform and emerging energy aggregation capabilities reflects a logical extension into higher-value layers of the ecosystem, leveraging the same installed base and data foundation. The SmartHUB platform demonstrates NeoPower's ability to scale a platform-level solution. By addressing fragmented charging access and coordinating usage more efficiently, it has grown into one of the leading charging hubs in Taiwan, demonstrating that the company can expand successfully from point solutions to ecosystem infrastructure.

The company also achieves commercial traction with notable efficiency. NeoPower generated early revenue within a relatively short timeframe while maintaining a lean team, indicating strong alignment between product design, customer needs, and cost structure. Looking forward, it is extending into power trading and demand response, shifting the model from one-time deployment toward recurring, performance-based revenue, positioning the company to capture ongoing value from the energy systems it helps manage.

Winning High-Value Customers across Expanding EV Ecosystems

NeoPower establishes a focused customer acquisition strategy by targeting EV fleets, particularly public bus operators, where electrification challenges are complex and have a high impact. This targeted

approach enables the company to engage customers with immediate operational needs, accelerating adoption and delivering measurable value.

The company builds a strong customer base within this segment, working with multiple bus operators and managing a growing network of EV charging stations. These deployments demonstrate NeoPower's ability to secure and retain customers in operationally critical environments, reinforcing reliability and trust.

Government entities play a central role within NeoPower's customer base, acting as anchor clients within large-scale public infrastructure projects. Engagements with city governments, such as Taipei and Taoyuan, highlight the company's ability to serve complex, mission-critical systems while reinforcing its credibility in the broader market.

Beyond its initial fleet focus, NeoPower is expanding its customer reach into adjacent segments, including logistics fleets and broader EV ecosystems. This diversification reflects the adaptability of its solutions and positions the company to capture demand across multiple electrification use cases.

The SmarHUB platform further enhances customer acquisition by functioning as an ecosystem connector. By integrating charging resources across multiple operators and vehicle types, the platform extends NeoPower's reach beyond direct customers to a broader network of users, including fleet operators, drivers, and infrastructure providers. This interoperability enables users to access diverse charging resources through a unified system, reducing fragmentation and improving accessibility. As a result, the company's solution becomes increasingly valuable as more participants join the ecosystem.

Additionally, partnerships with large-scale service providers, such as community platforms managing thousands of buildings, enable NeoPower to access new customer segments at scale, particularly within urban environments. Underlying this expansion is a strong customer-centric philosophy, with a focus on designing simple, intuitive solutions that address real operational challenges. This ensures high usability, strengthens customer satisfaction, and supports long-term retention.

Redefining Efficiency through Intelligent Automation

NeoPower's operational model centers on automation and real-time decision-making, replacing manual, reactive charging processes with a system that continuously manages itself. Its EV charging management platform uses algorithms rather than human oversight to coordinate fleet charging, reducing operational complexity and making performance more predictable. The system's core strength lies in its ability to ingest and act on real-time data. Battery state, route schedules, and service timing inputs feed into a centralized platform that allocates charging power dynamically. Charging infrastructure functions as a coordinated network rather than a collection of independent assets, with power directed where it delivers the greatest immediate value. Dynamic load management plays a key role in this coordination. The platform continuously prioritizes vehicles based on urgency, shifting available power toward buses with low charge and near-term deployment needs while deferring less critical demand. This avoids congestion, maintains service continuity, and increases the effective capacity of existing infrastructure.

Moreover, these capabilities translate directly into financial impact at the customer level. Automation reduces the need for dedicated personnel to monitor and manage charging activity, simplifying workflows and lowering labor requirements. At the same time, more precise control over load distribution reduces

unnecessary energy use and limits exposure to peak demand charges, improving cost predictability in energy-intensive fleet environments. The system also changes the economics of infrastructure investment. Higher utilization of available capacity allows operators to support fleet operations with fewer chargers, reducing upfront capital requirements without constraining performance. Electrification becomes more accessible as operating and deployment costs come down.

Finally, NeoPower's platform positions charging infrastructure as an active participant in the broader energy system rather than a passive consumer. By aggregating and controlling load at scale, it creates a foundation for integration with grid-level programs and other external value streams, extending the role of charging from operational necessity to strategic asset.

Scaling into the Future of Energy and Mobility Systems

NeoPower is well positioned to capitalize on global electrification trends, particularly within fleet-based segments where adoption is accelerating due to regulatory and economic drivers. Its early focus on EV fleets aligns directly with high-growth areas such as public transportation and logistics. The company's growth strategy prioritizes scalable fleet applications, where electrification is mandated and economically driven. This focus provides a stable and expanding demand base, supporting sustained growth.

"NeoPower's intelligent EV fleet charging management solutions optimize charging resources and operations. Furthermore, the generated operational data will help better manage charging loads, improve energy efficiency, and establish smarter and more stable urban energy systems. This data will also accelerate the development of digital ecosystem, such as Internet of Things, big data analytics and cloud computing."

- Ming Lih Chan
Mobility Research Manager

NeoPower is actively extending its presence into international markets including Japan, Southeast Asia, Europe, and the United States, leveraging partnerships to enable efficient entry and scaling. Its Japan strategy reflects a forward-looking market entry approach, focusing on fleet applications ahead of expected electrification acceleration. By establishing early partnerships, the company positions itself to capture growth as the market matures.

A major long-term growth driver is NeoPower's evolution into an energy ecosystem participant. Through its role as an aggregator in demand response and power trading markets, the company is expanding

beyond charging management into grid-level services with scalable revenue potential.

The SmarHUB platform further supports growth by enabling network-driven scalability. As participation increases, the platform benefits from network effects, enhancing value creation and strengthening competitive positioning.

NeoPower is also expanding into new application environments, including commercial and residential buildings, unlocking additional demand streams and broadening its market reach. Finally, ongoing investment in intellectual property strengthens long-term competitiveness as the company scales globally.

Conclusion

NeoPower Technologies (NeoPower) exemplifies true technology innovation leadership by seamlessly integrating deep academic rigor, software-driven intelligence, and agile execution into a highly differentiated and scalable market proposition. Its ability to transform advanced energy management expertise into fully automated, real-world electric vehicle (EV) charging optimization systems redefines operational efficiency for fleet operators and unlocks tangible financial value through reduced costs and infrastructure optimization. Through disciplined commercialization and strategic alignment with government-led electrification initiatives, NeoPower has rapidly transitioned from concept to validated market deployment, building a strong customer base anchored in high-impact fleet segments and expanding through its ecosystem-driven SmartHUB platform. At the same time, its forward-looking evolution into an energy ecosystem participant, capturing opportunities in demand response and power trading, positions the company beyond traditional charging management, enabling participation in the broader energy value chain. Supported by a highly specialized, innovation-centric team and reinforced by global partnerships and industry recognition, NeoPower delivers a compelling combination of technological depth, market traction, operational excellence, and future-ready strategy, collectively establishing it as a standout leader.

Complementing NeoPower's commercial success, ITRI has also served as a key ecosystem builder for Taiwan's EV charging industry. Through industry alliance formation, standards promotion, interoperability initiatives, and charging infrastructure validation programs, ITRI has helped create the broader market environment that enables intelligent charging solutions to scale successfully. It organized the Taiwan Electric Vehicle Power Supply Industry Technology Development Alliance, bringing together more than 60 companies to promote a common charging environment. Through the alliance, ITRI advanced the adoption of international standards including the Combined Charging System (CCS) and Open Charge Point Protocol (OCPP), supported the development of charging test and verification specifications, and promoted integration between charging infrastructure and the power grid. These activities help reduce interoperability barriers and create a more consistent foundation for charging-equipment suppliers, fleet operators, public agencies, and software-platform providers such as NeoPower to scale intelligent-charging applications.

Through technology transfer, ecosystem partnerships, and startup incubation, ITRI has played an important role in translating research outcomes into commercially deployable intelligent charging solutions. These capabilities complement NeoPower's market execution and accelerate the transition from technology validation to scalable industry adoption. Collectively, ITRI's contributions position it as a technology originator, ecosystem architect, standards enabler, and catalyst for commercialization within Taiwan's intelligent charging industry.

Together, NeoPower and ITRI demonstrate how collaboration between an innovative technology company and a leading research institution can accelerate the development, validation, commercialization, and large-scale deployment of intelligent charging solutions. Their complementary strengths have helped establish the technological foundation and ecosystem

conditions needed to advance Taiwan's EV charging industry while delivering measurable operational and economic benefits to fleet operators.

With their combined technological innovation, ecosystem leadership, market impact, and successful collaboration in advancing intelligent fleet-charging technologies, NeoPower Technologies and Industrial Technology Research Institute jointly earn Frost & Sullivan's 2026 APAC Technology Innovation Leadership Recognition in the EV fleet charging management solutions industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Recognition identifies the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Recognition Analysis

For the Technology Innovation Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Business Impact

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Leveraging innovative technology characterizes the company culture, which enhances employee morale and retention

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

VALUE IMPACT			
STEP		WHAT	WHY
1	Opportunity Universe	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	Transformational Model	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	Ecosystem	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	Growth Generator	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	Growth Opportunities	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	Frost Radar	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	Best Practices	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	Companies to Action	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fueled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Megatrend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

