



EMOBILITY FOR SHIPPING AND LOGISTICS FLEETS

# Electrifying Logistics Fleets

[usa.siemens.com/eMobility](https://usa.siemens.com/eMobility)

The transportation sector is evolving rapidly – shipping and logistics fleets are quickly moving to becoming all-electric. Not only does this open the opportunity for advancement in fleet operations, including lower operation and maintenance costs and supply chain efficiency, but it also helps reach their carbon emission reduction goals and corporate sustainability targets. But as fleets electrify, they need to plan to support the critical EV charging infrastructure. Siemens is helping fleet operators easily deploy, manage and reduce their overall cost of ownership of their charging systems while also helping reduce energy consumption. With our innovative charging technology solutions, we are powering the infrastructure across various sectors as well as planning and implementing secure grid connections to enable a smoother transition to electrified transport.

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### **Planning**

Fleet operators need to know how to operate electric vehicles, develop and manage the charging requirements, minimize costs and rapidly deploy in the face of utility interconnection delays. They must look beyond the vehicle and charging technology and consider the overall infrastructure requirements (including power distribution and operational needs) so they can make the most cost-effective decisions to best optimize the investment. To help support this planning process, Siemens' team of experts can evaluate your operations to determine the most cost-effective solution, power requirements and the number of chargers needed to maximize operations and vehicle charging schedule needs.



### **Interoperability**

There is a business transformation that occurs when fleets electrify. It requires new technology and processes that are very different from traditional practices. To ensure a successful electrified fleet rollout, fleet managers must work within a new ecosystem of partners – the vehicles' OEMs, their component suppliers, developers of the EV charging infrastructure, battery manufacturers, electric utilities and fleet vehicle operators are all collaborating. Therefore, interoperability between all groups is imperative. Fleet operators – or their expert partner – should lead this multi-stakeholder planning process to ensure a successful and profitable implementation by choosing providers who not only can help support them throughout the lifecycle of EV planning, deployment and management but whose products and systems can iteratively evolve with ongoing standards and energy distribution changes to ensure continued interoperability. As a pioneer and innovator in electric mobility, Siemens is an active participant in shaping and promoting standardization for EV charging solutions worldwide as well as manufacturing products and solutions that are built to evolve with emerging standards, business models and OEM fleet requirements within the EV marketplace. Siemens continues to ensure interoperability by conducting ongoing testing and assessments with all vehicle types and manufacturers, from delivery vans and class 8 trucks to buses and construction machinery.





### **Total cost of operations**

Fleets are adopting EVs for their fleets to reduce the total cost of operations. One key element is load management through smart charging. As fleets return to their home base for charging, operators will need to manage when and how these vehicles charge depending on their battery size, the type of EV charger being used and the turnaround time on which they need to be used. Fleet operators will need to consider the local time of charge tariffs to reduce electricity costs; whether they need to charge the vehicle quickly versus over a longer time period in addition to how many vehicles need to be charged during the same time schedule. With smart charging and the ability to control charging, operators can reduce power demands and electricity costs. Managing your fleet with smart charging load management systems will allow you to shave large peaks in power demand corresponding to the operations of the fleet coming and going from the base during different times to be charged. Operators can also utilize another technique called load shifting where you can control the chargers so that when the vehicles are plugged in, they don't start charging during higher peak times or during high energy cost times of the day. You can delay the time and thus avoid higher electricity costs. Siemens offers software-as-a-service cloud-based solutions and digital tools designed specifically for charge management to help you easily manage your electric fleet and reduce total cost of operations. Our DepotFinity solution was designed specifically with logistic fleets in mind. With over five years of operational data, it helps define the parameters that are key to a successful and cost-optimized energy plan for your electrified fleet. DepotFinity can also provide remote diagnostics, detailed reporting, operational planning and scheduling with one simple user interface.

**Funding the transition**

Today, there are many financial incentives from both state and federal funding to support the upfront costs. Siemens can help navigate through the various programs and assist in sifting the complexities. In addition, we are always happy to provide a letter of support when filing for federal and local grant funding. If you don't meet the criteria for the incentive programs, Siemens also offers financing options to help you reach your goals.





### **The charging infrastructure... more than just chargers**

Chargers are a critical component to support your electrified shipping and logistics fleet. However, charging infrastructure can become more complex for heavy-duty commercial vehicles that require more onsite power. Siemens offers PlugtoGrid™, an end-to-end set of solutions for EV charging infrastructure. Simply connect your chargers to the grid with our broad portfolio of open protocol charging technology and smart electrical equipment as well as other flexible options like:

- Energy storage
- Renewable integration
- Microgrid systems
- Cloud-based services

Our dynamic array of EV chargers includes our level 2 VersiCharge™ AC charger, our level 3 VersiCharge Ultra™ DC fast chargers and our SICHARGE UC DC chargers for heavy-duty fleets.

# eMobility<sup>®</sup> solutions



## VersiCharge AC™ series

- Level 2 AC charging – Up to 11.5 kW
- Light to medium-duty vehicles
- Flexible communication connections
- Open payment options
- OCPP integration
- NEMA 4 outdoor/indoor rating
- Charges all standard EV models
- Cost-efficient
- VersiCharge Blue - Buy American compliant



## Renewable integration

- Solar PV inverters and skid solutions
- Distributed energy systems
- Energy storage solutions
- Microgrids and controllers
- Solar PPA
- Renewable energy procurement



## SICHARGE UC™

- Fast, secure charging – Up to 150 kW
- Heavy-duty vehicles and buses
- Design flexibility
- Sleek, compact dispenser size
- Easily upgradeable
- Sequential charging with up to 4 plug-in dispensers
- Compatible with the Combined Charging System (CCS) charging standard and OCPP compliant
- Interoperability and future-proof up to 950 V



## Cloud-based fleet management

- Remote diagnostics and monitoring
- Load management and control
- Detailed reporting
- Operational planning and scheduling
- Charging optimization
- Energy cost management



## VersiCharge Ultra™

- Level 3 DC fast charging
- Light to heavy-duty vehicles
- 175 kW DC power
- Both CCS and CHAdeMO plug connections
- Easy installation
- OCPP integration
- Can be custom wrapped
- Simple cable management



## Planning and consulting

- Site assessment and planning
- Grid stress test
- Forecasting



## Asset services

- Onboarding
- Financing
- O&M management
- Maintenance and service contracts
- Warranty



## Electrical and energy equipment

- Panel boards
- Load centers
- Meters
- Breakers
- Safety switches
- Transformers
- Switchgear
- Renewable integration



### Scaling

As shipping and logistic fleets ramp up their electrified operations to meet mandates and decarbonization goals, infrastructure requirements will quickly grow from one-off pilots to full scale, multi-hundred (or even more!) charging points in a single location. This can be challenging when it takes time to receive permits and engineering approvals in addition to the needed substantial civic works. Running cable/conduit-fed chargers is easy for green-field smaller projects, but as you begin to scale to larger projects, it may not be as simple. That is why Siemens has developed a faster way to help scale up infrastructure using busway technology. Busway technology is very mature, and with a few modest tweaks, is a perfect option for large electric fleet sites, even outdoors in parking lot applications. Busway-fed charging is more cost effective; it allows for simpler site configuration by not only allowing chargers to be set up in a more efficient way, but also enables easier maintenance and future upgrades while reducing installation costs.





### **Making the transition**

The electrification of shipping and logistics fleets is building momentum. From mandates, government funding and incentives, lower battery costs and corporate sustainability efforts, fleets are making the transition. But as they do, they need to plan beyond just the vehicles and seek a partner who understands the breadth of an entire EV charging transition and the process it requires to build a future-proof electric fleet operation. Siemens' extensive experience in designing and deploying technology and software solutions worldwide is here to support you throughout your entire eMobility journey.

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Article No. SIE-B40043-00-4AUS  
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