

8. Acronyms and Abbreviations

Abbreviation	Definition
μL/mg-S	Microliter per milligrams sulfide
μm	Micrometer
0D	Zero-dimensional
1 Å –10 cm	Angstroms to centimeters scale
1 s – 1 yr	Seconds to year scale
1D	One-dimensional
2D	Two-dimensional
3D	Three-dimensional
4M	4M Carbon Fiber Corporation (team member)
4XT	4X Technologies, LLC
A380	Designation for the most specified Al alloy that has the best combination of casting, mechanical, and thermal properties
AAM	American Axle and Manufacturing
AC	Alternating current
ACC	Adaptive cruise control
ACMZ	Aluminum-copper-manganese-zirconium
ACT	California Advanced Clean Truck rule
AD	Additives type
ADS	Automated driving system
ADT	Articulated dump truck
AE	Activation energy
AEO	Annual Energy Outlook
AFE	Active Front End
AFM	Atomic force microscopy

Abbreviation	Definition
AFR	Air-fuel ratio
AFRL	Air Force Research Laboratory
Ag	Silver
Ah	Ampere-hour
AI	Artificial intelligence
AI/ML	Artificial intelligence/machine learning
AIMD	Ab initio molecular dynamics
AIR7357	SAE International MegaWatt and Extreme Fast Charging for Aircraft
Al	Aluminum
Al₂O₃	Aluminum oxide
Al-MMC	Aluminum metal matrix composites
AM	Additive manufacturing
AM60B	A castable Mg alloy with excellent ductility, superior energy absorbing properties, and good strength and castability
AMP	Colorado-based recycling technology vendor AMP (formerly Amp Robotics)
AMR	Annual Merit Review
AN	Ammonium nitrate
ANL	Argonne National Laboratory
ANSI	American National Standards Institute
APaCK-V	Argonne Perception and Connectivity Kit - Vehicle
API	Application programming interface
APS	Advanced Photon Source
ARC	Accelerating rate calorimetry
ARC	Army Research Combustor
ARL	Army Research Laboratory

Abbreviation	Definition
AS4	A high strength, high strain, continuous carbon fiber made by Hexcel
ASCENT	Aviation Sustainability Center
ASD	EPA's Assessment and Standards Division
ASPIRE	Advancing Sustainability through Powered Infrastructure for Roadway Electrification
ASR	Double-loop DC drive system, speed loop (ASR)
ASTM	ASTM International, formerly known as American Society for Testing and Materials
AT	Aftertreatment
Atm	Standard atmospheric pressure unit
ATSPM-E	Automated Traffic Signal Performance Measures-Energy
AV	Autonomous vehicle
AVL	Company name
AZ91D	A high-purity Mg cast alloy with excellent corrosion resistance, castability, and good strength
B100	100% biodiesel
B₂S₃	Boron Sulfide
B₂S₃-Li₂S	Boron Sulfide and Lithium Sulfide
B500	Battery 500 Consortium
BAE	BAE Systems Inc.
BatPaC	Battery Performance and Cost Model
BEAM CORE	Behavior, Energy, Autonomy, Mobility Comprehensive Regional Evaluator
BESS	Battery energy storage system
BEV	Battery electric vehicle
BIL	Bipartisan Infrastructure Law
BMS	Battery management system

Abbreviation	Definition
BNL	Brookhaven National Laboratory
BP	Budget Period
BPT	Bidirectional Power Transfer
BTE	Brake thermal efficiency
BTM	Behind the meter
BTMS	Behind-the-meter energy storage
C/S	Carbon/sulfur
C2G	Cradle-to-grave
CA	Conductive additive
CAF	Development Bank of Latin American and the Caribbean
CAFE	Corporate Average Fuel Economy
CALPHAD	CALculation of PHase Diagrams (software by CompuTherm)
CAM	Cathode active materials
CANMET	Canadian Centre for Mineral and Energy Technology
CARB	California Air Resources Board
CAT	Caterpillar
CAV	Connected and automated vehicle
CC&C	Clean Cities and Communities
CCF	Continuous carbon fiber
CCP	Composites Core Program
CCP 2.0	Phase 2 of the Composites Core Program
CCS	Combined Charging System
CCV	Closed crankcase ventilation
CDA	Cooperative driving automation
CE	Coulombic efficiency

Abbreviation	Definition
CEI	Cathode electrolyte interphase
CEPNA	Cummins Electrified Power North America
CERPMs	Chip-Enabled Raised Pavement Marker(s)
CF	Carbon fiber
CFD	Computational fluid dynamics
CFM	Carbon framework material
CFRC	Carbon fiber reinforced composites
CFRP	Carbon fiber reinforced polymer
CFTF	Carbon Fiber Technology Facility
CH₄	Methane
CHA	Chabazite
CI	Compression ignition
CMC-SBR	Sodium carboxymethyl cellulose (CMC) and Styrene butadiene rubber (SBR)
CMU	Carnegie Mellon University
CNG	Compressed natural gas
CNT	Carbon nanotube
Co	Cobalt
CO	Carbon monoxide
CO₂	Carbon dioxide
CPE	Composite polymer electrolyte
CPS	Cyber-Physical Security
CR	Compression ratio
CRADA	Cooperative Research and Development Agreement
CRC	Coordinating Research Council

Abbreviation	Definition
CRC	Cyclic redundancy check
CRF	Sandia National Laboratories' Combustion Research Facility
CS-SPAN	Carbon Supported Sulfurized polyacrylonitrile
Cu	Copper
CV	Cyclic voltammetry
CV	Connected vehicle
C-V2X	Cellular-vehicle-to-everything
CVC	Clean vehicle credits
DAC	Disadvantaged community
DC	Direct current
DCaaS	Data Center as a Service
DCFC	Direct current fast charger
DEC	Diethyl carbonate
DEE	1,2-diethoxyethane
DEF	Diesel exhaust fluid
DEI	Diversity, equity, and inclusion
DEIA	Diversity, Equity, Inclusion, and Accessibility
DEMS	Differential electrochemical mass spectrometry
DER	Distributed energy resource(s)
DERST	NFPA Distributed Energy Resources Safety Training (DERST) Program
DFI	Ducted fuel injection
DFT	Density functional theory
DFT-MD	Density functional theory molecular dynamics
DGE	Diesel gallon equivalent
DGMARL	Decentralized graph-based multi-agent reinforcement learning algorithm

Abbreviation	Definition
DI	Direct injection
DME	1,2-Dimethoxyethane
DME	Dimethyl ether
DNN	Deep neural network
DNS	Direct numerical simulation
DOC	Diesel oxidation catalyst
DOE	U.S. Department of Energy
DOL	Electrolyte solvent 1,3-dioxolane
DORMA	VTO Decarbonization of Off-Road, Rail, Marine, and Aviation subprogram
DOT	U.S. Department of Transportation
DPA	Diphenylamine
DPF	Diesel particulate filter
DR	Demand response
DRIFTS	Diffuse reflectance infrared Fourier transform spectroscopy
DRIVE	Driving Research and Innovation for Vehicle efficiency and Energy
DRX	Disordered rock salt
DSC	Differential scanning calorimetry
DSO	Distribution system operator
e.g.	For example
E/S ratio	Electrolyte/Sulfur ratio
E98	98% ethanol/2% gasoline
EAS	Exhaust aftertreatment system
EC	Ethylene Carbonate
ECO_PI	Ecological Performance Index

Abbreviation	Definition
Eco-ATCS	Ecological Adaptive Traffic Control System
ECU	Engine control unit
EDS	Energy-dispersive X-ray spectroscopy
EE	Energy Equity
EEEJ	Energy equity and environmental justice
EEI	Energy, Equity and Inclusion
EEJ	Energy Environmental Justice Action Plan
EELS	In situ Electron Energy Loss Spectroscopy
EEMS	VTO Energy Efficient Mobility Systems subprogram
EERE	Office of Energy Efficiency and Renewable Energy
EF	Electric field
EGR	Exhaust gas recirculation
eGRID	Emissions & Generation Resource Integrated Database
EIA	U.S. Energy Information Administration
EIS	Electrochemical impedance spectroscopy
EJ	Environmental Justice
EJOT	EJOT Group, supplier for engineered fasteners and joining technology
EJOWELD CFF®	Product name for a commercial friction welding process
ELT	VTO Electrification Technologies subprogram
EM	Electromagnetic
EMC	Ethyl methyl carbonate
EMC	Electromagnetic compatibility
EMI	Electromagnetic interference
e-motor	Electric motor

Abbreviation	Definition
EMPOWER	Equitable Mobility Powering Opportunities for Workplace Electrification Readiness
EMS	Ethyl methyl sulfone-based electrolytes
EPA	U.S. Environmental Protection Agency
EPR	Electron paramagnetic resonance
EPRI	Electric Power Research Institute
EQCM	Electrochemical quartz crystal microbalance
Er	Erbium
ESS	Energy storage system
etc.	et cetera (and so forth)
ETFE	Ethylene tetrafluoroethylene
EtOH	Ethanol
EV	Electric vehicle
EVAL	Electric Vehicle Adoption Leadership
EVSE	Electric vehicle supply equipment
F2DEM	bis(2-fluoroethoxy)methane
F5DEE	2-[2-(2,2-Difluoroethoxy)ethoxy]-1,1,1-Trifluoroethane
FAA	Federal Aviation Administration
FCEV	Fuel cell electric vehicle
FDMB	Fluoro-dimethoxybutane
Fe	Iron
FEC	Fluoroethylene carbonate
FEOC	Foreign entity of concern
FFC	Federal Communications Commission
FGS	Functionally graded scaffold

Abbreviation	Definition
FHWA	Federal Highway Administration
FIXS	Flexible interface for XIL simulation
FMW	FMW Solutions LLC
FOA	Funding opportunity announcement
FODS	Freight Origin-Destination Synthesis
Ford	Ford Motor Company
FOTW	Fact of the Week
FPT	Fiat Powertrain
FSLW	Friction stir linear welding
FSP	Friction stir processing
F-SPR	Friction self-piercing rivet
FSU	Florida State University
FSW	Friction stir welding
FTA	Federal Transit Administration
FTIR	Fourier transform infrared spectroscopy
FUSE	Flexible charging to Unify the grid and transportation Sectors for EVs at scale
FY	Fiscal year
FZ	FZ Jülich-Company Name
g/cc	Grams per cubic centimeter
g/kWh	grams per kilowatt-hour
G3-5M	A grade of cold-hardened nickel-based steel alloy with 5% molybdenum
GC	Gas chromatography
GDI	Gasoline direct injection
GE	General Electric, Inc.

Abbreviation	Definition
Gen	Generation
GER	Global equivalence ratio
GHG	Greenhouse gas
GM	General Motors
GO	California Governor’s Office of Business and Economic Development, or GO-Biz
GPU	Graphic processing units
GREET	Greenhouse gases, Regulated Emissions, and Energy use in Technologies model
GSA	General Services Administration
GTI	GTI Energy Partners
GTT	Geospatial Transportation Typology
GUI	Graphic user interface
H	Hour
H11	Chromium-based steel alloy from the “H” family of steels with outstanding impact toughness
H₂	Hydrogen
HB	Handbook
HC	Hydrocarbon
HD	Heavy-duty
HEFA	Hydroprocessed esters and fatty acids
HEV	Hybrid electric vehicle
HEVISAM	Heavy-Duty Battery Electric Vehicle Infrastructure Scenario Analysis Model
HFMP	1,1,1,3,3,3-hexafluoro-2-methoxypropane
HiVe	High velocity
Hp	Horsepower

Abbreviation	Definition
HPC	High power charger
HPDC	High-pressure die-casting
HP-RTM	High-pressure resin transfer molding
HRE	Heavy rare earth
HTC	High-temperature carbonization
HTC6 and HTC8	High-temperature carbonization trial number
HV	Human-driven vehicle(s)
HyREX	Optimized Low Carbon Fuel Range Extender
I, II, III, IV	Roman numerals for 1, 2, 3, 4
I₂	Iodine
ICAO	International Civil Aviation Organization
ICCT	International Council on Clean Transportation
ICE	Internal combustion engine
ICME	Integrated computation materials engineering
ID	Identification
IDT	Ignition delay time
IEEE	Institute of Electrical and Electronics Engineers
IEK	IEK-9 - Company Name
IL	Illinois
IMC	Intermetallic compound
IMEP	Indicated mean effective pressure
IMT	Intake manifold temperature
In	Indium
IN	Indiana

Abbreviation	Definition
in/min	Inches per minute
Inc.	Incorporated
INL	Idaho National Laboratory
IOO	Infrastructure Owner Operator
IPK	Iso-paraffinic kerosene
IPM	EPA's Integrated Planning Model
iPP-CF30	Designation used for a specific sample
IRA	Inflation Reduction Act
ISO	Independent system operator
J/m2	Joules per meters squared
J2954	SAE International standard for Wireless Power Transfer (WPT) for EVs
J3271	SAE International standard for Megawatt Charging System for Electric Vehicles
J3400	SAE International standard charging connector
J40	Justice 40 Initiative
JR	Company name JR Automation
Kg	Kilogram
Klbs	Kilopounds
Koura	Koura - Company name
ksi	Kilopound per square inch
KUKA	Company name for Keller und Knappich Augsburg, manufacturer of industrial robots
KW	Kilowatt
kWh	Kilowatt-hour
kWh/lb	Kilowatt hours per pound
L	Liter

Abbreviation	Definition
L2	Level 2
LATP	Li _{1.3} Al _{0.3} Ti _{1.7} (PO ₄) ₃ , a potential solid-state electrolyte
LBNL	Lawrence Berkeley National Laboratory
LBO	Lean blow-out
LBS	Lithium thioborates
lbs	Pounds
LCA	Life cycle analysis
LCLF	Low carbon liquid fuel
LD	Light-duty
LDV	Light-duty vehicle
LEEP	Leadership of Employers for Electrification Program
LES	Large eddy simulation
LFP	Lithium iron phosphate
LG	LG Energy Solution Ltd.
LHCE	localized high-concentration electrolyte
Li	Lithium
Li CE	Lithium coulombic efficiency
Li nm	Lithium and nanometers
Li NMC	Lithium nickel manganese cobalt oxides
Li SPAN	Lithium sulfurized polyacrylonitrile
Li/Ni	Lithium/nickel
Li₂O	Lithium oxide
Li₂O/LiF	Lithium oxide per lithium fluoride
Li₂S	Lithium Sulfide
Li₂S₂	Lithium disulfide

Abbreviation	Definition
Li₂S-B₂S₃	Lithium Sulfide and Boron Sulfide
Li₂S_x	Lithium Sulfide type
Li₂ZrCl₆	Lithium zirconium chloride
Li₅B₇S₁₃	Lithium boron sulfide
LIBs	Lithium-ion battery(ies)
LIC	Li ₃ InCl ₆
LiCoO₂	Lithium cobalt oxide
LiF	Lithium fluoride
LiFSI	Lithium bis(fluorosulfonyl)imide
LightMAT	Acronym for the Lightweight Materials Consortium
Li-ion	Lithium-ion
LiNiO₂	Li-Ni-O compound
LiNO₃	Lithium nitrate
LiOH	Lithium Hydroxide
LiPF₆	Lithium hexafluorophosphate
LiPS	Lithium polysulfide
Li-S	Lithium Sulfur
LiTFSI	Lithium bis(trifluoromethanesulfonyl)imide
Li_xNiO₂	Lithium nickel oxide cathode with variable lithium content
LLC	Limited liability corporation
LLCF	Low-lifecycle-carbon-fuels
LLDPE	Linear low-density polyethylene
LLNL	Lawrence Livermore National Laboratory
LLTO	Lithium lanthanum titanate
LLZO	Lithium lanthanum zirconate

Abbreviation	Definition
LLZTO	Garnet-type fast lithium-ion conductor $\text{Li}_{6.75}\text{La}_3\text{Zr}_{1.75}\text{Ta}_{0.25}\text{O}_{12}$
LMB	Lithium metal batteries
LMCP	Lightweight Metals Core Program
LMR	Lithium manganese-rich
LNO	LiNiO_2
LoukusTech	Loukus Technologies, Inc.
LPP	Lean premixed prevaporized
LPSC	$\text{Li}_6\text{PS}_5\text{Cl}$
LPSCI	Lithium phosphorus sulfide chloride
LSV	Linear sweep voltammetry
LTC	Low temperature carbonization
LTO	Lithium titanium oxide
LYC	Li_3YCl_6 (LYC)
M	Million
$\text{m}^2/\text{V}\cdot\text{s}$	meters squared per volt seconds
MA	An (undefined) electrolyte additive
MA3T	Market Acceptance of Advanced Automotive Technologies
mAh	Milliampere-hour
mAh/g	milliampere-hours per gram
mAh/g or mAh g^{-1}	Specific capacity [mAh/g] refers to the amount of electric charge [mAh] a material can deliver per gram of that material.
MBWE	Minority- or women-owned business enterprises
MCCI	Mixing-controlled compression ignition
MCS	Megawatt charging system
MD	Medium-duty

Abbreviation	Definition
MD/HD	Medium-duty/heavy-duty
MeOH	Methanol
MEP	Mobility energy productivity
MERF	Materials Engineering Research Facility
MESC	Multifunctional Energy Storage Composites
MG	Motor-generator
Mg	Magnesium
mg/cm²	milligrams per square centimeter
MIT	Main injection timing
MITIE	Micromobility-Integrated Transit and Infrastructure for Efficiency
ML	Machine learning
MLPs	Machine learning interatomic potentials
MMC	Metal matrix composites
Mn	Manganese
MNC	Li _{1.2} Mn _{0.54} Ni _{0.13} Co _{0.13} O ₂ a lithium manganese compound
MOF	Type of electrolyte
MoS₂	Molybdenum disulfide
MOSFET	Metal–oxide–semiconductor field-effect transistor
MOVES	EPA's MOtor Vehicle Emission Simulator
MPa	Megapascal
MPG	Miles per Gallon
MRD	Molecular Rebar® Design
MRL	Manufacturing readiness level
mS/cm	Millisiemens per centimeter
Msi	Megapound per square inch

Abbreviation	Definition
MTF	Type of electrolyte
MUD	Multi-unit dwelling
MV	Megavolt
MW	Megawatt
MWC	Megawatt charging
MWCNT	Multi-walled carbon nanotubes
MXene	The name for a new class of graphene like two-dimensional transition metal carbon (nitrogen) compounds
N/P ratio	Negative-to-positive electrode capacity ratio
N₂O	Nitrous oxide
NA	Not Applicable
NACS	North American Charging Standard
NAFTC	National Alternative Fuels Training Consortium
NAFTD	North American Fire Training Directors
NASA	National Aeronautics and Space Administration
Nb	Niobium
NCM	Lithium nickel manganese cobalt oxides (abbreviated NMC, Li-NMC)
NDE	Nondestructive evaluation
NEMS	National Energy Modelling System
NEVI	National Electric Vehicle Infrastructure
NFPA	National Fire Protection Association
NG	Natural gas
NGP	Next Generation Profile(s)
NH₃	Ammonia
NHTSA	National Highway Traffic Safety Administration

Abbreviation	Definition
Ni	Nickel
NiO₂	Nickel (II) oxide
NJFCP	National Jet Fuel Combustion Program
NM	Nickel manganese oxides
Nm	Nanometers
NM9505	LiNi _{0.95} Mn _{0.05} O ₂
NMC	Nickel manganese cobalt oxide
NMC/Li	Battery system with a nickel manganese cobalt oxide cathode and a lithium metal anode
NMC622	cathode type with 60% nickel, 20% manganese, and 20% cobalt
NMC811	cathode type with 80% nickel, 10% manganese, and 10% cobalt
NMOG	Non-methane organic gas
NMR	Nuclear magnetic resonance spectroscopy
NO	Nitric oxide
NO₂	Nitrogen dioxide
NO_x	Nitrogen oxides
NREL	National Renewable Energy Laboratory
NSLSII	National Synchrotron Light Source II
OCV	Open circuit voltage
OEM	Original equipment manufacturer
OH	Ohio
ORNL	Oak Ridge National Laboratory
OSU	Ohio State University
OTAQ	EPA's Office of Transportation and Air Quality
P1A	Project task within Thrust 1 of the LMCP

Abbreviation	Definition
P1B	Project task within Thrust 1 of the LMCP
P1C	Project task within Thrust 1 of the LMCP
P1C1 and P1C2	Project task within Thrust 1 of the LMCP
P2030.13	Draft guide for creating a functional specification for electric vehicle (EV) fast charging stations
P2A	Project task within Thrust 2 of the LMCP
P2B	Project task within Thrust 2 of the LMCP
P2C	Project task within Thrust 2 of the LMCP
P3A	Project task within Thrust 3 of the LMCP
P3B	Project task within Thrust 3 of the LMCP
PAA	Polyacrylic acid
PACCAR	Successor company to the Pacific Car and Foundry Company
PAH	Polycyclic aromatic hydrocarbon
PAN	Polyacrylonitrile
pCAM	Precursor cathode active material
PC-MCC	Prechambered enabled mixing-controlled combustion
Pd	Palladium
PDF	Pair distribution function
PE	Polyethylene separator
PECAN	Polyester Covalently Adaptable Network
PECVD	Plasma-enhanced chemical vapor deposition
PeleLMeX	PeleLMeX is the non-subcycling version of PeleLM, an adaptive-mesh low Mach number hydrodynamics code for reacting flows
PEO	Poly(ethylene) oxide
PET	Polyethylene terephthalate

Abbreviation	Definition
PEV	Plug-in electric vehicle
PF5	Phosphorus pentafluoride anion
PF6	Hexafluorophosphate anion
PFG1	Partially-fluorinated glymes type
PFGs	Partially-fluorinated glymes
PFI	Port fuel injection
PFT	Pulse Fourier transformation
PGM	Platinum group metals
PHEV	Plug-in hybrid electric vehicle
P-HIL	Power Hardware-in-the-Loop
PI	Principal investigator
PIV	Particle image velocimetry
PM	Permanent magnet
PM	Particulate matter
PMCP	Powertrain Materials Core Program
PNNL	Pacific Northwest National Laboratory
PPM	Polymer poly(pentyl malonate)
PQC	Post-Quantum Cryptography
PR	Pooled rideshare
PS	Polysulfide
Psi	Pound per square inch
Pt	Platinum
PVDF	Polyvinylidene fluoride
Q1	Quarter 1/Quarter 2
Q1/Q2/Q3/Q4	Quarter

Abbreviation	Definition
Q3/Q4	Quarter 3/Quarter 4
QA	Quality assurance
R&D	Research and development
R2	Modeled circuit resistor 2
RANS	Reynolds-averaged Navier-Stokes
ratio of B/S/Li	ratio of Boron per Sulfur per Lithium
rCF	Recycled carbon fiber
RCM	Rapid compression machine
RDD&D	Research, development, demonstration, and deployment
RE	Rare earth
REC	Renewable energy credit
RFP	Request for proposal
RHC	Reduction half cycle
RNG	Renewable natural gas
RR(s)	Radar retro-reflector(s)
RRC	Rolling resistance characterization
RT14	Particle Type
S	Sulfur
S/cm	Siemens per centimeter
S8	Octasulfur
SAE	SAE International, formerly Society of Automotive Engineers
SAF	Sustainable aviation fuel
SBIR	Small Business Innovation Research
SBR	Styrene–butadiene rubber
SCM	Smart charge management

Abbreviation	Definition
SCO	Selective catalytic oxidation
SCP	Silicon consortium project
SCR	Selective catalytic reduction
SE	Solid electrolyte
SEI	Solid-electrolyte interphase
SEM	Scanning electron microscopy
SEMs	Scanning electron microscopies
SEMS	Site energy management system
ShAPE™	Shear assisted processing and extrusion
SHM	Structural health monitoring
SI	Spark ignition
SIC	Single-ion-conducting
SiC	Silicon carbide
SiOx	Silicon Oxide Type
SLAC	SLAC National Accelerator Laboratory
SLIC	Sustainable Lightweight Intelligent Composites
SLP	Single-layer pouch
SMART	Specific, Measurable, Attainable, Realistic, and Timely [milestones]
SMART	Systems and Modeling for Accelerated Research in Transportation
SMC	Sheet molding compound
Sn	Tin
SNL	Sandia National Laboratories
SOA	State of the art
SOC	State of charge
SOPO	Statement of Project Objectives

Abbreviation	Definition
SoS	System of System(s)
SpaciMS	Spatially resolved capillary inlet mass spectrometer
SPAN	Sulfurized polyacrylonitrile
SPaT	Signal phase and timing
SPE	Solid polymer electrolyte
SPK	Synthetic paraffinic kerosene
SPS	Spark plasma sintering
SRNL	Savannah River National Laboratory
SSE	Solid-state electrolyte
S-SPAN	Sulfur – sulfurized polyacrylonitrile
SSRL	Stanford Synchrotron Radiation Light Source (SSRL) is a general user facility supported by the DOE Office of Science
SST	Solid-state transformer
ST1/ST2	SuperTruck 1/SuperTruck 2
STEM	Science, Technology, Engineering, Mathematics
SUNY	State University of New York
SVF	Soot volume fraction
SWNT	Single-wall carbon nanotubes
SwRI	Southwest Research Institute
T3CO	Transportation, Technology, and Cost of Ownership
T6	Temper designation for Al that is heat-treated at a temperature between 325°F and 400°F to increase the strength
TAT	Traffic analysis tool
TCD	EPA's Transportation and Climate Division
TCI	Terephthalolyl chloride
TCO	Total cost of ownership

Abbreviation	Definition
TEA	Techno-economic analysis
TEDB	Transportation Energy Data Book
TEEM	Transportation Energy Evolution Modeling
TEIS	U.S. Department of Energy’s Transportation Electrification Impact Study
TEM	Transmission electron microscopy
TEMPO	Transportation Energy and Mobility Pathway Options
TFEM	Time-frequency electromagnetic method
TFHRC	Turner-Fairbank Highway Research Center
TFSI	Bis(trifluoromethanesulfonyl)imide (TFSI), [(CF ₃ SO ₂) ₂ N]-
TFTFE	1,1,2,2-Tetrafluoroethyl 2,2,2-trifluoroethyl ether
TI	VTO Technology Integration subprogram
TiB₂	Titanium diboride
TM	Transition metal
TMB	Trimethylbenzene
TMR	Tunnel magnetoresistance
TMV	TMV Control Systems–Next Generation Locomotive Control Systems
TNA	Transportation needs assessment
TNC	Transportation network company
TOF	SIMS Time-of-flight secondary ion mass spectrometry
TofF SIMS	Time-of flight secondary ion mass spectrometry
TOU	Time-of-Use
TPIC	Tillotson Pearson Incorporated Composites
TRA-C	Company name TRA-C Industrie, a FSW supplier
TRL	Technology readiness level
TTC	Transportation Technology Center

Abbreviation	Definition
TTE	1,1,2,2-tetrafluoroethyl-2,2,3,3-tetrafluoropropyl ether
TTS	Traffic Technology Services
TuFF	Tailorable universal Feedstock for Forming
TWC	Three-way catalyst
TXM	Transmission X-ray microscopy
U.S.	United States of America
U.S. DRIVE	U.S. Driving Research and Innovation for Vehicle efficiency and Energy sustainability DOE partnership
UC	University of California
UCB	University of California, Berkeley
UCC	Ultra conductive copper
UCI	University of California, Irvine
UCSD	University of California-San Diego
UDRI	University of Dayton Research Institute
UHMWPE	Ultra-high molecular weight polyethylene
uL/mg	micro liters per milligram
ULI	NASA University Leadership Initiative
ULSD	Ultra-low sulfur diesel
UPER	Universal power electronics regulator
US	United States
US DRIVE	U.S. Driving Research and Innovation for Vehicle efficiency and Energy sustainability
USG	U.S. government
USW	Ultrasonic spot welding
UT	University of Texas
UT	Utah

Abbreviation	Definition
UTD	Utilization Technology Development
UVM	University of Vermont
UW	University of Washington
UW	University of Wisconsin
V	Volts
V1G	Unidirectional smart charging
V2G	Vehicle-to-grid
V2H	Vehicle-to-home
V2I	Vehicle-to-infrastructure
V2V	Vehicle-to-vehicle
V2X	Vehicle-to-everything
VAN	U.S. Department of Energy’s VTO Analysis (VAN) subprogram
VDA	Company name for Verband der Automobilindustrie, the German Association of the Automotive Industry
VDC	Volts direct current
VECTOR	Visual-Enhanced Cooperative Traffic Operations
VGI	Vehicle grid integration
ViL/VIL	Vehicles-in-the-loop
VISSIM	PTV VISSIM – Traffic Simulation Software
VIUS	Vehicle Inventory and Use Survey
VMS	Variable message sign
VMT	Vehicle miles traveled
VNL	Volvo VNL heavy-duty truck
VoFLE	Volume of Fluid and Lagrangian Eulerian
VOICES	Virtual Open Innovation Collaborative Environment for Safety

Abbreviation	Definition
VRU(s)	Vulnerable road user(s)
vs.	Versus
V-SCR	Vanadia-based selective catalytic reduction
VTO	Vehicle Technologies Office
VTOL	Vertical take-off and landing
VVT	Variable valve timing
WBG	Wide bandgap
WE	Working Electrode
Wh/kg	Watt hours per kilogram
Wh/L	Watt hours per liter
WMLES	Wall-modeled LES
WPT	Wireless power transfer
WRLES	Wall-resolved LES
WSU	Washington State University
WVU	West Virginia University
XANES	X-ray absorption near edge structure spectroscopy
XAS	X-ray absorption spectroscopy
XFC	Extreme fast charge
XIL	Everything-in-the-loop
XPS	X-ray photoelectron spectroscopy
XRD	X-ray diffraction
XRF	X-ray fluorescence
ZEV(s)	Zero emission vehicle(s)
Zr	Zirconium
ZT	Zero Trust (ZT) Architecture