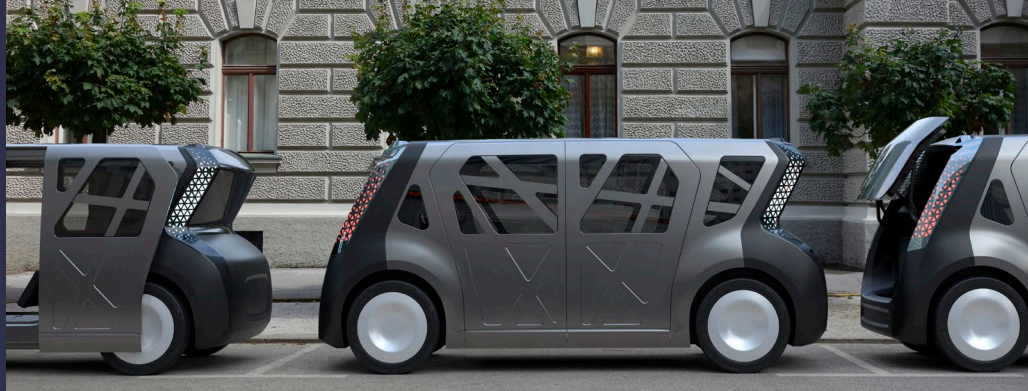




IN PARTNERSHIP WITH



About Steel E-Motive

Steel E-Motive is a new concept for autonomous ride sharing and ride hailing vehicles – enabled by Advanced High-Strength Steel (AHSS) products and technologies. It has been developed by WorldAutoSteel, in partnership with Ricardo plc, which will make its materials and methods freely available to automotive manufacturers around the world to help them produce a new generation of sustainable, comfortable, and economical vehicles. Steel E-Motive can be produced using existing global manufacturing and supply resources at attractive cost levels and profit margins, making it possible for production to start as soon as 2030. The strength and efficiency of AHSS enables a design that not only minimizes material thickness but also maximizes material utilization, significantly reducing production emissions.

Steel E-Motive features 64 AHSS grades and seven AHSS structural innovations – including a battery carrier structure that is 37% lighter than average benchmarked structures at 27% less cost.

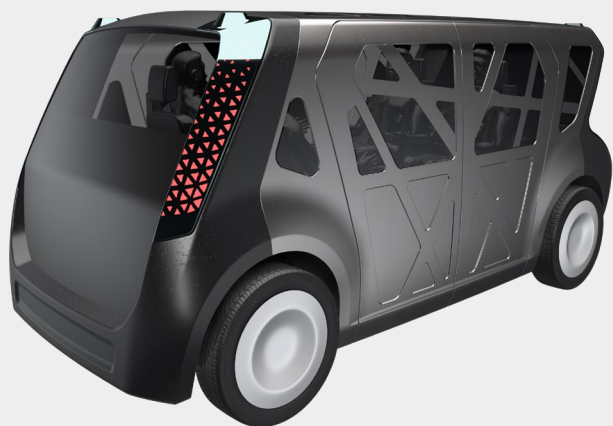
It is the world’s first autonomous vehicle engineered to provide levels of crashworthiness that meet global standards, including performance in line with the highest rating – “Good” – from the Insurance Institute for Highway Safety (IIHS).

It is the sixth and latest evolution in a 22-year history of AHSS-enabled concepts from WorldAutoSteel, which together represent over \$130 million in steel industry investment.

About WorldAutoSteel

WorldAutoSteel is a global consortium of 18 companies that work together on a variety of programs to enhance advanced material applications in the automotive industry. A key research area is life cycle assessment, to help develop solid methodologies to assess the environmental performance of automotive materials.

WorldAutoSteel is the automotive group of the global iron and steel industry trade body, the World Steel Association (worldsteel). Both organizations are headquartered in Brussels, Belgium.



About AHSS

Advanced High-Strength Steels have been developed with unique mechanical properties to make them very strong, and in some cases also highly ductile so they can be formed into complex shapes. Offering the highest impact protection and crash absorption, they help to keep passengers safe. They also contribute to vehicle lightweighting, requiring less material for the same functionality. AHSS continue to evolve to meet vehicle design challenges. Today’s vehicle structures contain as much as 60% AHSS content.

LAUNCH OF STEEL E-MOTIVE:

TIMELINE OF EVENTS 2023

15 JUNE
Zemo 20th Anniversary Conference
LONDON, UK

1-3 AUGUST
CAR MBS
TRAVERSE CITY, MI, USA

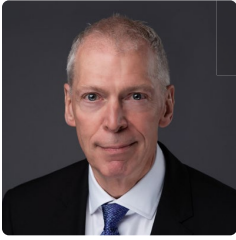
AUGUST
SEM full engineering report goes live, freely available to download from steelemotive.world

17-19 OCTOBER
EuroCarBody
BAD NAUHEIM, GERMANY

14-16 NOVEMBER
CoMotion LA
LOS ANGELES, CA, USA

15-18 NOVEMBER
KSAE 2023 Autumn Conference
ULSAN, SOUTH KOREA

Q1 2024
Steel E-Motive Conference
SHANGHAI, CHINA



Cees ten Broek

Director, WorldAutoSteel

Cees ten Broek has been a Director of WorldAutoSteel since 2011 and is a member of its management team. Before joining the automotive industry, he held senior positions in finance and strategy with ITT Corporation, Alcatel, and Xerox in Europe and the USA. He is a member of the editorial board of Automotive Innovation, published by Springer, and a member of the Industry Advisory Board of OPJ University, Raigarh, India.

A graduate in Economics, Law, and Business Administration from the University of Amsterdam, Netherlands, Cees has also completed additional studies at the Oxford School of Economics, and the IMD Business School in Lausanne, Switzerland.



George Coates

Technical Director, WorldAutoSteel

As Technical Director for WorldAutoSteel, George Coates has led studies on steel lightweighting for future vehicles and was the project manager for AHSS Application Guidelines, Versions 5.0, 6.0, and 7.0. He has consulted on processing efficiencies for steel industry AHSS production systems, while working with automotive OEMs on process improvements.

George has provided engineering and consulting services to the steel, automotive, and manufacturing industries for over 30 years. His areas of expertise include project management, lean practices for automotive stamping productivity, and metal formability and reference panel systems.

Following a degree in metallurgical engineering from the University of Cincinnati, his career has included lead Automotive Applications Engineer for Ford Motor Co. and President and CEO of the Phoenix Group.



Adrian Schaffer

President, Emerging Mobility, Automotive and Industrial Business Unit at Ricardo plc

Adrian Schaffer is the President, Emerging Mobility, Automotive and Industrial Business Unit at Ricardo plc. He drives sales and execution, translating Ricardo's global expertise into the advancement of clean mobility solutions. Schaffer's three decades of experience have given him broad and deep technical knowledge that's invaluable for helping customers implement cutting-edge technologies.

Adrian earned his Executive MBA from Michigan State University and has a Bachelor of Arts degree from Oberlin College.



Neil McGregor

Chief Engineer, Vehicle Systems Integration, Ricardo Automotive and Industrial Division, EMEA

Neil McGregor is responsible for delivering complete vehicle engineering programs. He has a background in vehicle structural analysis, vehicle mass reduction, and energy efficiency. He has over 25 years of powertrain and vehicle engineering experience working across a number of industry sectors including passenger car, commercial vehicle, defense, niche/performance, and electric vehicles.

His current role at Ricardo is Chief Engineer for the Steel E-Motive project program in collaboration with WorldAutoSteel. He is an associate member of the Institute of Mechanical Engineers and has a degree in Mechanical Engineering from the University of Leeds, UK.



Russ Balzer

Technical Director, WorldAutoSteel

Russ Balzer is Senior Director – Technical Programs at the Phoenix Group, providing environmental, quality, and operations support to the steel industry. Russ currently acts as Technical Director for WorldAutoSteel, managing engineering and life cycle assessment (LCA) programs and working closely with stakeholders to improve their understanding of the impact of material choices.

Russ is WorldAutoSteel's liaison to the World Steel Association's LCA Expert Group, which develops and aligns procedures and processes for the global steel industry.

Russ earned a BSS in Environmental Compliance from Ohio University and is a Life Cycle Assessment Certified Professional through the American Center for Life Cycle Assessment (ACLCA).

US media

For interview/comment and image requests, please contact:

MICHELLE CALDWELL

Public Relations, Campbell Marketing & Communications

☎ 313-418-4692

✉ mcaldwell@campbellmarketing.com

steelemotive.world

worldautosteel.org

Scan or click the QR code to link to MBS resources on the Steel E-Motive website

