

Global Steel Industry Developing Vehicle Concept Around Next Generation Electrics, Hybrids

Lighter, Stronger, Greener Steel Bodies to Help Automakers Increase Efficiency at Lower Cost

Summary:

- ***Phase 1 technology and component evaluations complete, four technical specification options were considered – FSV-1 (battery electric vehicle and plug-in hybrid electric vehicle) and FSV-2 (plug-in hybrid electric vehicle and fuel cell electric vehicle)***
- ***Phase 2 vehicle concepts, to be completed in 2010, will provide optimized steel designs that meet or exceed future environmental, fuel economy, safety and weight standards***



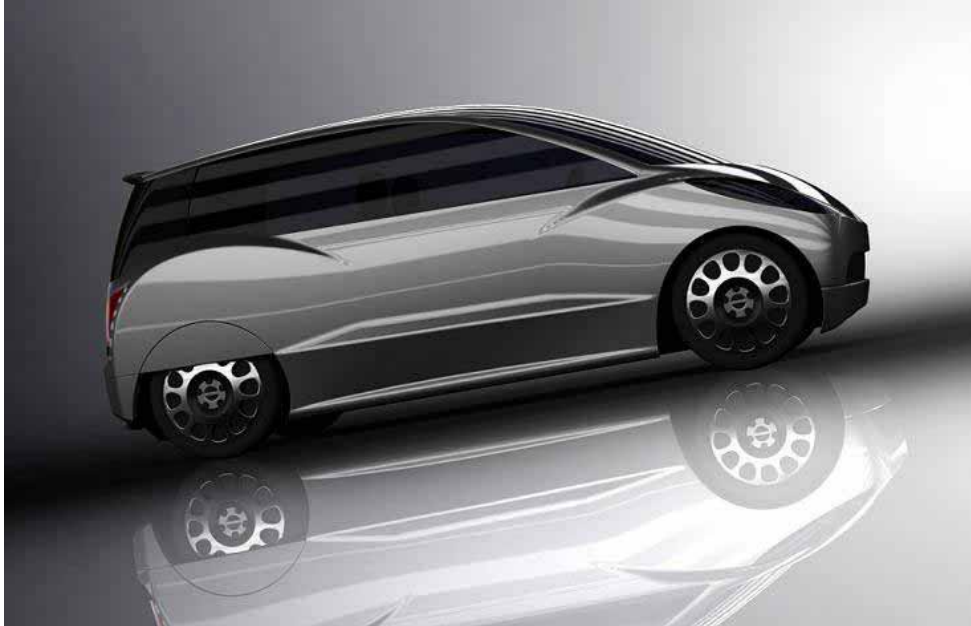
Brussels, 31 August 2009 – As worldwide demands for affordable, safe and high efficiency vehicles surge, the global steel industry's WorldAutoSteel body is launching the Phase 2 of its Future Steel Vehicle programme (FSV) aimed at helping automakers optimize new propulsion technologies that will soon enter showrooms.

The FSV Programme recently completed Phase 1 of its research and today releases its findings and plans for Phase 2.

For Phase 1, FSV's technical team, which includes EDAG, Quantum Technologies., SFCV/Tongji and WorldAutoSteel material experts, considered four technical specification options for proposed 2015-2020 year vehicle: battery electric (BEV) and plug-in hybrid electric (PHEV) vehicles for 4+ passengers; and plug-in hybrid electric (PHEV) and fuel cell (FCV) vehicles for five-passengers.

Each of these options was evaluated by the engineering team and powertrains were selected based on performance, viability for production in 2020 and cost. As well, two vehicle classes were identified:

- FSV-1 is a 4-door hatchback with BEV and PHEV₂₀ powertrain variants.



- FSV-2 is a 4-door sedan and is designed to accept two powertrain options: a plug-in hybrid electric vehicle – PHEV₄₀ and a fuel cell electric vehicle – FCEV.



In Phase 2, the purpose will be to develop detailed design concepts and fully optimize a radically different body structure for the FSV-1 BEV. It also will identify structure changes to accommodate the other three vehicles and powertrain variants.

In addition to meeting or exceeding future safety and performance requirements, extremely aggressive weight reduction targets have been set for FSV Phase 2. The FSV team intends to meet these targets using engineering design optimization and advanced steel technologies. Achievement of such aggressive weight reduction with steel will set a new standard for vehicle design approaches for the future.

The FSV Phase 2 development will consider a total life cycle assessment of the concept designs to meet CO₂ emissions targets. Regulations that consider only the vehicle use phase can encourage the use of low-density, greenhouse gas (GHG)-intensive materials that provide somewhat lighter weight components. However, this may have the unexpected result of increasing GHG emissions during the vehicle's total life cycle.

In 2008, the FSV team released preliminary styling imagery for an early reveal on what the FSV vehicles might look like. Since then, the design process has taken the team through a number of iterations.

FSV-1:



FSV-2:



WorldAutoSteel and its global engineering partners will develop FSV Phase 2 (Concept Designs) throughout 2009 and 2010. This will be followed by a demonstration hardware phase. For continuing information on the Future Steel Vehicle programme and to download the Phase 1 Executive Summary, visit www.worldautosteel.org.

###

For additional images, visit www.worldautosteel.org and click Image Library.

Contacts:

In Europe:
Cees tenBroek

In the U.S.A.
Kathleen Hickey



Communications Director, WorldAutoSteel
P: + +31 65 333-8623
E: TenBroek@worldsteel.org

Communications, WorldAutoSteel
P: +1 (734) 905-0062
E: khickey@worldautosteel.org

About WorldAutoSteel

WorldAutoSteel, the automotive group of the International Iron and Steel Institute continually explores steel innovation that demonstrates and communicates the value of steel in automobiles to industry and society. Its worldwide member companies pool global resources within and beyond the steel industry to deliver vital research that is central to effective steel automobile applications. WorldAutoSteel continues to lead the materials revolution through projects like the Future Steel Vehicle and the UltraLight Steel Family of Research: ULSAB, ULSAC, ULSAS, and ULSAB-AVC, which help the world's automotive industry to improve the safety, affordability and environmental impact of its products. To learn more about these and other WorldAutoSteel projects, visit www.worldautosteel.org

WorldAutoSteel members include:

Anshan Iron and Steel Group Corporation – China
Arcelor Mittal – Luxembourg
Baoshan Iron & Steel Co. Ltd. – China
Corus-Tata – The Netherlands & India
Hyundai-Steel Company – Korea
JFE Holdings, Inc. – Japan
Kobe Steel, Ltd. – Japan
Nippon Steel Corporation – Japan
Nucor Corporation – USA
POSCO – South Korea
Severstal – Russian Federation & USA
Sumitomo Metal Industries, Ltd. – Japan
ThyssenKrupp Steel AG – Germany
United States Steel Corporation – USA
Usinas Siderurgicas de Minas Gerais S.A. – Brazil
voestalpine Stahl GmbH – Austria