

# Business and Technological Issues for Hybrid Commercial Vehicles



**A live, interactive Telephone/Webcast  
Presented by SAE in affiliation with ABI Research**

**Thursday, July 28, 2005 • 11:30 a.m - 1:30 p.m. Eastern Time**

## Overview

Hybrid electric technology can serve to increase performance, increase fuel economy, improve emissions quality, or some combination of the three. In what niches do the application of hybrid technology make the most sense? The **Business and Technological Issues for Hybrid Commercial Vehicles Telephone/Webcast** will focus in on some of the early market niches, second-generation opportunities, and technological choices. Can the urban delivery and metropolitan transit niches sustain the market? What are the second-generation market targets? Can hybrid technology help in the ongoing battle to meet emission standards? Will any architecture come to dominate? Parallel? Series? Assist? In what form will the technology be packaged and sold to buyers? Is there a future for plug-in hybrids?

This 120-minute telephone/webcast will feature commentary from analyst firm ABI Research, including findings of its study on "Commercial Hybrid Electric Vehicles." Moderated by Senior Analyst Dan Benjamin, a panel of speakers in the forefront of hybrid technology development will join in with their own unique perspectives, discoveries and achievements. The audience also will be encouraged to share their viewpoints.

## Objectives

The **Business and Technological Issues for Hybrid Commercial Vehicles Telephone/Webcast** will provide you with:

- A discussion about the existing benefits and limitations and the issues for ongoing development of hybrid technology for commercial vehicles
- A look at how both the benefits and drawbacks of hybrid technology fit into the buyer's business models
- Considerations for the areas of development that have the most viable focus, from improving the application of hybrid systems, the level of manufacturing chain (powertrain or chassis OEM, builder, etc...) at which they are considered, and the cost vs. capability of the system.
- An overview of the existing design choices that are faced by hybrid system developers, from the aggressiveness of the electric drive systems to the accompanying costs to the collateral benefits of including more advanced electric infrastructure in the vehicle.
- An analysis of the ABI Research report, "Commercial Hybrid Electric Vehicles," featuring insights on the unique market demands for hybrid technology from both fleets and businesses and on the upcoming generation of hybrid trucks and the focus on cost reduction and specific market niches where the technology can be most cost effective.

## You should join the broadcast if you are a

- Powertrain Design, Development, or Test Engineer
- Regulator or Legislator
- Fleet Manager
- Electric Motor Manufacturer/Engineer
- Battery Manufacturer/Engineer
- Power Electronics Manufacturer/Engineer
- Academic, Researcher and Student

## Featured Speakers

**Dan Benjamin**, Senior Analyst, ABI Research  
(Program Organizer and Moderator)


Dan Benjamin is responsible for ABI Research's analyses of hybrid vehicles, fuel cells, alternative fuels, in-vehicle networking and other automotive electronics, authoring numerous studies in these areas. Dan has been cited in many technology and trade publications including *Wired*, *Automotive News*, *Automotive Engineer*, and *EE Times*, as well as general interest publications such as *USA Today* and *The Economist*, and broadcast news channels such as CNBC and NPR. He holds a B.S. in Mechanical Engineering from Columbia University and has laboratory experience in fuel cell and automotive design. Prior to joining ABI Research, Dan performed engineering analysis with the Port Authority of New York and New Jersey and the New York City School Construction Authority.

**Jeffrey L. Carpenter**, Senior Chief Engineer – Controls  
Eaton Corporation

Jeff Carpenter graduated from Purdue University with a B.S. degree in Electrical Engineering Technology. He has held various professional positions including technical staff member for TRW-Military Electronics Division, product engineer with Eaton Automated Truck Division, then as a system engineer. Jeff was awarded a patent for a non-contacting position sensor, which sensed the position of transmission shift rails. In 1996, Jeff took a position as an engineering supervisor overseeing the development of a new six-speed AutoShift transmission. He followed the introduction to Freightliner Corporation as a senior development engineer and, later, project engineer. In 2000, Jeff opted to return to Eaton Corporation as program manager and now works as senior controls chief engineer in the Hybrid Business Unit. His responsibilities were to develop the process for designing and developing the hybrid vehicle control system, supervising the control team's success, supporting hybrid sales events, and to lead hybrid field test, among other things.

**Ricardo Espinosa**, Vice President – Engineering,  
Azure Dynamics Corporation

Ricardo Espinosa oversees a group of more than 20 engineers and technicians who develop controls, design power electronics components, and integrate vehicle systems for the commercial truck and tactical military markets. Prior to joining Azure Dynamics, Ricardo spent over ten years with Solectria Corp., where he led the design and integration of electric and hybrid electric vehicles incorporating a wide range of energy storage systems and systems topologies. From 1993 to 1994, Ricardo was an associate engineer at CALSTART with responsibilities for developing, procuring, and installing data acquisition systems to be used in all electric vehicles participating in CALSTART programs. Ricardo holds a B.S. in Mechanical Engineering from California State University at Los Angeles, where he was the leader of the Solar Eagle Racing Team. Ricardo also holds a mini-MBA from Northeastern University.



*SAE Telephone/Webcasts are a quick, convenient,  
and cost-effective way to stay informed about  
changing technology*

**[www.sae.org/tele-webcasts](http://www.sae.org/tele-webcasts)**

## How a Telephone/Webcast works

SAE Telephone/Webcasts are quick, convenient, and cost-effective and do not require travel. The format features audio and open discussion delivered by telephone and presentation graphics and polling by Internet direct to your home, office or conference room. To participate, your site will need:

- a computer with a standard Internet connection [at least 56K] and Internet Explorer or Netscape 3.0;
- a telephone with a dedicated line and speakerphone capabilities; and
- a VGA Projector and screen (large groups).

Firewalls do not have to be reconfigured to enable connection to the online meeting center, thus complying with corporate security policies that guard against the opening of firewall ports.

Registrations for this SAE-Learning event are available on a per-site basis. Individuals can connect or multiple participants who can gather around a speakerphone and computer monitor or projector may share a site. Dialing instructions for the program along with the URL for accessing the graphic materials and a pre-event test page are e-mailed to you a week prior to the event.

## Registration & Fees (in U.S. Dollars)

Register your site today!

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Thursday, July 28, 2005, 11:30 a.m. – 1:30 p.m. Eastern Time  
I.D. #C0516

**Fee: \$345**  
**\$295.00 for SAE Section and Collegiate Chapter-sponsored sites (subject to verification)**

### Registrations will be accepted until 8:00 p.m. E.T. on July 27, 2005.

The fee includes one connection to the 120-minute audio broadcast (toll-free # for U.S. and Canada), one connection to SAE's online meeting center (via WebEx), and access to the webcast presentations, audience polling, open discussion and interactive question-and-answer. A full refund is issued if you notify SAE at least 14 days prior to program date. If canceled less than 14 days prior, the full fee is charged.

To register or for additional information, visit [www.sae.org/tele-webcasts](http://www.sae.org/tele-webcasts) and complete the online registration form, or contact SAE Customer Service at 1-877-606-7323 (1-724-776-4970 outside the U.S. and Canada) or at [CustomerService@sae.org](mailto:CustomerService@sae.org).

*There will be no archive created from this event.*

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# Related Resources from SAE International

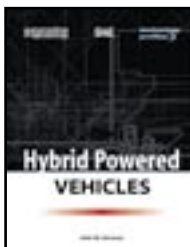
## **NEW!** Hybrid Gasoline-Electric Vehicle Development

This book chronicles recent advances in hybrid vehicle technologies and looks ahead to future hybrid vehicle development. Featuring 28 landmark SAE technical papers—plus articles from Automotive Engineering International magazine—from the past seven years (1998-2004), this book provides the most comprehensive information available on topics including power performance and fuel economy; powertrain architecture and controls integration; urban, military, and commercial applications; battery technologies; and energy management, control, and recovery strategies. This book is an invaluable resource for practicing engineers, managers, students, and those with an interest in this promising technology.  
(PT-117; List \$129.95/SAE Member \$103.96)



## Hybrid Powered Vehicles

With growing concerns about energy security and global warming, interest in hybrid vehicles is on the rise due to their advantages in using the existing infrastructure and offering a means to reduce consumer fuel consumption and cost while significantly reducing levels of the pollutants contributing to global warming. This book explores the basis of hybrid components and system engineering, delves into the design constraints, challenges and opportunities and concludes with a look toward the future presenting an expert's outlook on developments in the technology, its applications and potential markets.  
(T-119; List \$195.00/SAE Member \$156.00)



## Advanced Hybrid Vehicle Powertrains 2005

From the SAE 2005 World Congress, this volume of technical papers describes new production hybrid powertrains, hybrid components, systems development, and systems analysis.  
(SP-1973; List \$119.00/SAE Member \$95.96)

## Powertrain & Fluid Systems Conference & Exhibition

October 24-27, 2005, San Antonio, Texas, USA

An open forum for powerplant design engineers and engine fluid experts to exchange technical information, share ideas, address challenges and develop business opportunities. The event blends a solid foundation in the conventional spark ignition (SI) and compression ignition (CI) technologies with advanced alternative power sources.  
[www.sae.org/events/pfs/](http://www.sae.org/events/pfs/)

## Commercial Vehicle Engineering Congress & Exhibition

November 1-3, 2005, Metro Chicago (Rosemont), Illinois, USA

Join us for another exciting event where SAE brings together, in ONE place, an assembly of both on- and off-highway customers. Three intense days of interaction with engineers, supply managers, and executives. Building on the success of the 2004 inaugural conference, this event provides a forum where cutting edge technology for the commercial vehicle industry is discussed and exhibited.  
[www.sae.org/events/cve/](http://www.sae.org/events/cve/)