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SHANGHAI

SAE 2014 VEHICLE ELECTRONICS AND POWERTRAIN TECHNOLOGIES FORUM

In Conjunction with

The 7th China Auto Electric Information Net
Annual Congress

December 10-11, 2014

Holiday Inn Shanghai Jinxiu Hotel

No.399 Jinzun Road, Pudong New Area, Shanghai, China

Event Guide

Includes Final Program

HOSTS:

SAE International
国际自动机工程师学会

CNAICO
中汽国际

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China Association of Automobile
Manufacturers Vehicle E-Motor &
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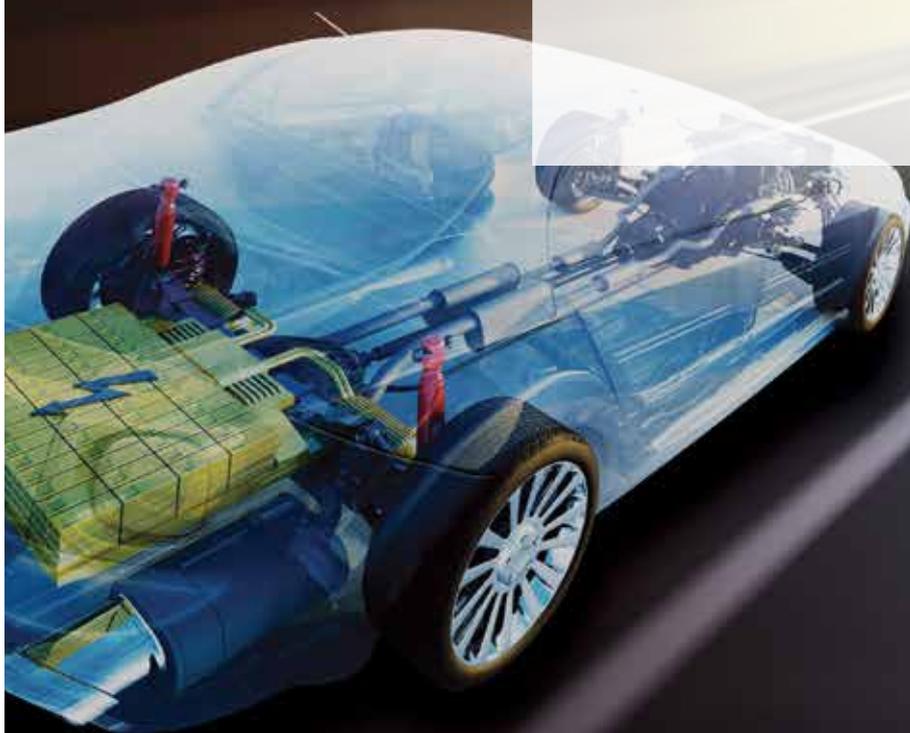
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SAE 2014 VEHICLE ELECTRONICS AND POWERTRAIN TECHNOLOGIES FORUM

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HOSTS INTRODUCTION



SAE International is a global technical association of more than 145,000 engineers and related technical experts in the aerospace, automotive and commercial-vehicle industries. It was founded in 1905 with 30 engineers in New York and now spans more than 100 countries. SAE International is perhaps best known for its technical standards. More than 8,000 technical experts from around the world participate on 600 standards committees to develop a large base of standards and recommended

practices that are used to support product design and development. Many government regulations and documents reference SAE International standards.



China National Automotive Industry International Corporation (CNAICO) is a wholly-owned subsidiary of China National Machinery Industry Corporation (SINOMACH), a large state-owned group. CNAICO specializes in areas such as international exhibitions, international trade, project contracting, and culture and media, as well as industrial investments related to these areas. CNAICO has held numerous automobile exhibitions that combine internationality and locality in over 30 large and medium-sized Chinese cities. The total exhibition area of exhibitions that CNAICO independently organizes or jointly do with partners each year exceeds 2 million m².



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China Auto Association Electric Motor and Electric Appliance Committee for Vehicle (CAAMC) is one of the branches of CAAM. It was approved to be a community organization by China’s Ministry of Civil Affairs when established in Changsha in 1992. CAAMC serves all automotive enterprises and entrepreneurs in

China in electronics, electrical appliances and electrical motors industries.



SAE International-Hong Kong Section (SAE-HK), a local group of the SAE International, was inaugurated in December 2009. This section is covering the geographical boundary of Hong Kong with more than 100 local members who are professional engineers, entrepreneurs, industrialists and educations dedicated to advancing the engineering of mobility system. For those business executive and industrialists, they are all being engaged in the automotive related business with

extensive experiences in business partnership, joint ventures, technology and products development, production and quality management, etc. especially in mainland China.

Organizers:



Friends of the Industry:



Supporting Media:



EVENT OVERVIEW

TIME	DEC 10, 2014 WEDNESDAY		DEC 11, 2014 THURSDAY
9:00	WELCOME SPEECH		
9:30	CAAMC AWARDS CEREMONY		TECHNICAL SESSION: Engine and Transmission Control
10:00			
10:30			Tea Break
11:00	TECHNICAL SESSION: Electric/Electrified Powertrain Technologies		
11:30			TECHNICAL SESSION: Battery Management
12:00			
12:30			Lunch
13:00	Lunch		
13:30			TECHNICAL SESSION: Systems Engineering
14:00	TECHNICAL SESSION: Electric Motor Controls Advancement	The 7 th China Auto Electric Information Net Annual Congress New Energy Electric Motor & Control Industry Alliance Year-End Review	
14:30			TECHNICAL SESSION: Fuel Cell Control Systems
15:00			Tea Break
15:30			
16:00	Tea Break		TECHNICAL SESSION: SAE Hong Kong Topics
16:30	TECHNICAL SESSION: 48V-Hybridization Architecture - Panel	Round Table Discussion	
17:00			

Registration

DEC 9	Tuesday	13:00 - 17:00
DEC 10	Wednesday	08:00 - 17:00
DEC 11	Thursday	08:30 - 12:00

Contact SAE International China Office

Mr. Rick WANG
 Phone: 021-6131-2392
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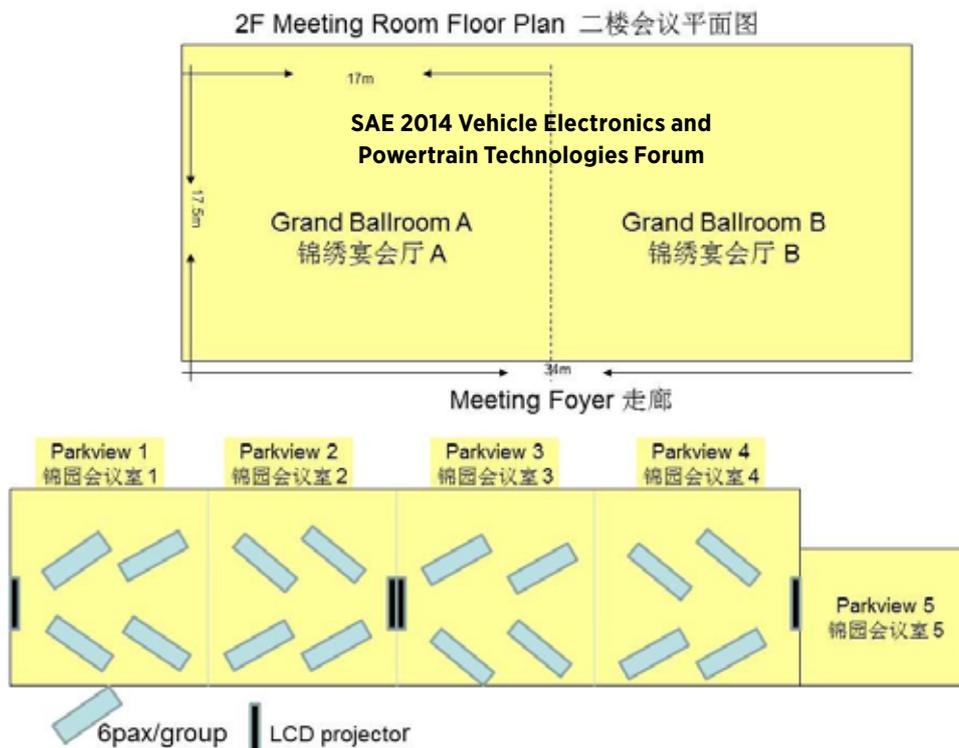
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**WEDNESDAY
DEC 10**

WELCOME SPEECH

09:00

Fusheng ZHANG, Chairman of the Board, China National Automotive Industry International Corporation
Gary Schkade, General Manager-China, Managing Director -Asia-Pacific, SAE International
Xiaoping ZHU, Secretary-General, China Auto Association Electric Motor and Electric Appliance Committee for Vehicle

CAAMC AWARDS CEREMONY

09:30

CAAMC Awards Ceremony

Moderator: **Luming LIU**, Regional President, Bosch Engineering GmbH

ELECTRIC/ELECTRIFIED POWERTRAIN TECHNOLOGIES

10:00

Power-trains to Power-grids

Don Christian, VP, eMobility, Resurgen Renewables

10:30

Electric Vehicles-oriented Battery Management System Solutions

Jie MENG, Marketing Manager, Freescale Global Analog & Sensor Group

11:00

New Methodology for Economic Development —VEM (Vehicle Energy Management)

Qing LI, STS Director of strategy, Siemens PLM Software

11:30

Key Technology of EV's Drive Motor and its Industrialization

Jun GONG, General Manager, Shanghai Edrive Co., Ltd.

12:00

The Latest Manufacturing Process of EPS Motor

Zhishun LI, Former Secretary-General, No. 21 research institute of China Electric Technology Group

12:30

48V Eco Drive Mild Hybrid System

Robert Deutsch, Director Asia of the Hybrid Electric Vehicle Business Unit, Continental AG

ELECTRIC MOTOR CONTROLS ADVANCEMENT — Grand Ballroom A

14:00

Semiconductors as Enablers for Variable Motor Control in Vehicles

Richard ZHU, Head of Automotive System Engineering, Infineon

14:30

Develop Technology based on Applications: Development Path of New Energy Vehicle and Key Components in China

Xingyi XU, General Manager, Shanghai Dajun Technologies ,Inc.

15:00

Research & Development of E-motor Control System

Dr. Yuan ZHU, Head of Hans L. Merkle Foundation - Bosch Endowed Chair for Automotive Systems, Tongji University - Infineon Automotive Electronics Joint Laboratory

15:30

Application of ISO26262 in NEV

Luming LIU, Regional President, Bosch Engineering GmbH

48V-HYBRIDIZATION ARCHITECTURE - PANEL — Grand Ballroom A

16:30

Moderator: **Helen XU**, Senior Director, Automotive Division – China Head, Infineon Technologies China Co., Ltd

Panelist: **Daniel Benchetrite**, Asia System Engineering Director, Valeo Powertrain Business Group
Robert Deutsch, Director Asia of the Hybrid Electric Vehicle Business Unit, Continental AG
Dr. Zhenxing FU, Director, Powertrain Systems SAIC Motors
Luming LIU, Regional President, Bosch Engineering GmbH

**The 7th China Auto Electric Information Net Annual Congress
New Energy Electric Motor & Control Industry Alliance Year-End Review
—Grand Ballroom B**

14:00

Welcome Speech

Yimei WEN, Deputy General Manager, China National Automotive Industry International Corporation

Quanxing BAO, Chairman, Industry Alliance of New Energy Electric Motor & Control

President, Changzhou WuQi Auto Electric Co., Ltd.

Chunrong SHAN, Director, Shanghai International Automobile City

Gary Schkade, General Manager – China, Managing Director – Asia Pacific, SAE International

Work Report

Xiaoping ZHU, Secretary-General, Industry Alliance of New Energy Electric Motor & Control

14:35

The Trend of New Energy Electric Drive in China and Overseas

Chengliang Yin, Auto Energy Saving Technology Institute, Shanghai Jiaotong University

14:50

The Technology Development & Trends of Intelligent Cars

Zhenxing FU, Chief Engineer of Powertrain System, SAIC

15:05

**Enlarge General Basic Research & Enhance the Competition of Auto Electric Motors
in “13th-Five-Year-Plan” of China**

Jun GONG, General Manager, Shanghai Edrive Co., Ltd.

15:20

The Status & Future of EV Electric Motor

Zhihui DUAN, Chief Engineer – Hybrid, Powertrain Integration Institute, Chery Motor

15:35

**New Generation of Information Technology and the Application in New Energy
Vehicle & Intelligent Traffic**

Yonglong XU, General Manager, Blaupunkt Electronics Technologies (Shanghai) Co.,Ltd.

16:20

Round Table Discussion

TECHNICAL PROGRAM

THURSDAY
DEC 11

ENGINE AND TRANSMISSION CONTROL

09:00

Virtual Engine Calibration Optimization

Guoqiang AO, Senior Technical Consultant, Mathworks

09:30

Active Observing Based Control and its Application in Diesel Engines Based on Multi-core ECU

Prof. Hui XIE, Vice Director, State Key Laboratory of Engines, Tianjin University

10:00

Go Green- Power New Energy Vehicle

Simon HUANG, Marketing and Business Development Manager, Freescale Semiconductor

BATTERY MANAGEMENT

11:00

Systematic Solutions of Hangsheng Electronic Products in New-energy Vehicle

Chunyang ZHENG, Director of Electric and Electronic Product in Hangsheng Electronic Research Institute

11:30

Safety Critical Functionalities in Battery Management

Anna Stefanopoulou, Professor of Mechanical Engineering Department, University of Michigan

12:00

Development of Generic Control Functions for Battery Management Systems

Tao Wan, Manager, Business Unit Electronics and Electronics, FEV China Co. Ltd.

SYSTEMS ENGINEERING

13:30

Adopting ISO 26262: lessons learned in ramping up on ISO 26262-compliant development

Zhihui LI, Senior Technical Consultant, Mathworks

FUEL CELL CONTROL SYSTEMS

14:00

Lifetime Analysis of Fuel Cell in a Bus Hybrid Powertrain

Buz McCain, Systems Engineering Platform Manager, Ballard Power Systems Inc.

TECHNICAL PROGRAM

THURSDAY
DEC 11

SAE HONG KONG TOPICS

15:00

Application of Low-Cost Image Processing Technique in Active Safety System

Dr. Lawrence Poon, Principal Consultant Automotive & Electronics, Hong Kong Productivity Council

15:20

Development of Infotainment System for Mass Transportation Vehicles Based on MOST150 System Architecture

Mr Rick MO, Senior Consultant Automotive & Electronics Division, Hong Kong Productivity Council

15:40

Design of Software and Hardware Platform for the Integrated Configurable Instrument Cluster

Ms. Ketty YU, Managing Director, Infotronic International Ltd.

16:00

Test Program Setting and Achievement of ELVH Charging Equipment

Mr Henri HE, Greater China SBU GM of Automotive division and new project development director, Bureau Veritas

16:20

Test Program Setting and Achievement of ELVH Charging Equipment

Mr. Xinqiang LI, Director of renewable energy test lab, Shanghai Electrical Apparatus Research Institute(Group) Co., Ltd.

16:40

Ezicharge Wireless Technology

Mr. Kelvin HUANG, General Manager of Brand and Product, Surface Mount Technology Limited



SAE 2015 HYBRID AND ELECTRIC VEHICLE TECHNOLOGIES SYMPOSIUM

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Don Christian
VP, eMobility
Resurgens Renewables

Power-trains to Power-grids

DEC 10

Don works as VP of engineering for Resurgens Renewables, a California startup focused on electric mobility and energy. His current projects involve new drivetrain designs for both hybrid and all-electric propulsion and electrical nano-grids associated with PEV energy provisioning. Don engineered, integrated, and tested EV propulsion and cooling systems at Coda Automotive, including NHTSA crash tests. At BAE Systems, his armored combat vehicle designs were used in hybrid tracked and wheeled trucks, and were proven through range tests and hostile combat operations. His agricultural harvesters and aircraft ground

support vehicles continue in field use, and his autonomous robotic vehicle designs are in production use today for semiconductor clean-room material transport.

Don is an inventor of 22 US plus many foreign patents. He has taught internationally a variety of technical courses and publications, in Europe, Asia, and the US. He's a senior member of IEEE & SAE, is an elected Fellow of the Society of Manufacturing Engineers, and a member of SAE's J1772 conductive charging standards task force for plug-in electric vehicles.

ABSTRACT

The continuing electrification of powertrains is driving automotive architectures toward electrical power distribution grids, specifically modern nanogrids. This transformation is being driven in part by traction motors capable of regenerative braking and partly by the inclusion of the large storage battery into the powertrain domain. The power grid model consists of generation, transmission, and distribution components, as well as grid-scale storage, and all have automotive analogs

and hold the potential of more broadly shared technologies and components. This paper will examine some pitfalls that have become apparent with the emergence of modern hybrid and plug-in vehicles (including PHEV and EV), and some potential lessons from 100 years of utility power production. It will also examine some extrapolations and potential benefits from the looming synergistic unification of these previously unrelated power technologies.



Jie MENG
Marketing Manager
Freescale Global Analog &
Sensor Group

Electric Vehicles-oriented Battery Management System Solutions

DEC 10

2011—Now: Freescale, Freescale Global Analog & Sensor Group, Marketing & BD Manager, dedicate in driving FSL Analog business growth in AP such as driving the products NPI, promoting FSL Analog portfolios to local customers, work with Freescale MCU team to provide reference designs in focused

applications etc. In 2011, the first Generation FSL BMS chip—MM912J637 got the leading product Award on EDN China's innovation Award.

2008—2011: ADI(Europe), Designer and FAE for Analog power products.

Got degree in E&E and Master in C&S in Europe, Always Focused in the Analog area.

ABSTRACT

Freescale will introduce the solution about the high-pressure battery management system (BMS), including the simulation of the front end IC, communication IC and system solution.

The battery pack controller can provide the optimal functions and performance in the BMS application, and bring you the cutting-edge, economic, and efficient system design.



Qing LI

STS Director of Strategy,
Siemens PLM Software

New Methodology for Economic Development—— VEM(Vehicle Energy Management)

DEC 10

Engineer and PhD of ENSAM in France. Li specializes in system modeling and simulation studies, and boasts rich experience in the modeling and simulation of the complicated hydraulic and mechatronic system. He has worked with a host of customers both home and abroad on their system simulation projects, such as the modeling and study of Reynolds' AMT synchronizer, the modeling and simulation of BorgWarner's pressure and flow control valve, and the modeling of Siemens' high pressure common rail system of the engine. After coming back to China, he presided over and completed a series of projects related with hydraulic pressure, such as the Study and Experiment of

the Development of the Automatic Gearbox project of an automobile organization; the simulation of the hydraulic pressure control system of the automatic gearbox of an automobile organization; the modeling analysis of the cushion valve of the automatic gearbox of a weaponry organization; torsional vibration analysis of the engine and drivetrain of an weaponry organization; real-time simulation of the engine of a vessel organization; analysis of the large-scale high pressure hydraulic system of a vessel organization; they simulation analysis of the special air valve for rockets of an aerospace organization. Li is now the strategic development director of Siemens PLM STS.

ABSTRACT

With the implementation of the new fuel economy regulations, the requirement of energy saving and emission reduction becomes more important. How can we master a comprehensive system for the energy distribution and consumption, and how can we evaluate vehicle energy conservation and emissions reduction as early as possible in the process of design(such as electrical system, start-

stop technology, exhaust energy and other technical effect) is the hot topic for automotive industry. LMS Imagine.Lab Amesim gives answer of vehicle energy management solution to the above questions. The vehicle energy management solutions, through the new test technology and the combination of the multidisciplinary integrated system simulation technology, can

understand accurately the 100% automobile fuel in automobile major systems and components distribution and consumption, to determine the potential energy saving subsystem and components. With the energy-saving measurement of these subsystems and components, the vehicle energy solution can be known early in the design process.



Jun GONG

President
Shanghai Alliance of Vehicle
E-Drive Technological
Innovation
Director
Shanghai E-Drive
Engineering and
Technological Research
Center
General Manager
Shanghai Edrive Co., Ltd

Key Technology of EV's Drive Motor and its Industrialization

DEC 10

Gong Jun is currently president of Shanghai Alliance of Vehicle E-Drive Technological Innovation, and director of Shanghai E-Drive Engineering and Technological Research Center, and the general manager of Shanghai Edrive Co., Ltd. He was a candidate of the first batch of science and technological leaders for a program called "Ten Thousand talents plan", enjoys the special allowance of the State Council, and serves as an expert of China's Twelfth Five Year Plan EV Key Science and Technological special program panel, China's Eleventh Five Year Plan 863 Project Energy Saving and New Energy Vehicle Major Program Master Panel on Electric Motors. He is a member of National New Energy EV Access Expert Council, EV National Engineering Lab Technical Committee, National Fuel Cell vehicle and Technical Committee of Powertrain Engineering Technological Research

Center. He has been the chairman of IEEE-IAS China twice.

He was the leading researcher of various vehicle motor system projects sponsored by the Ministry of Science and Technology, MIIT, Shanghai Technological Breakthrough and Hi-tech Industrialization Project, among which 6 of them were national 863 projects. His achievements in R&D and contribution to industrialization has reached or even led international advances.

He has also led teams in formulating and revising national standards related to EV motors and controllers. He also has experience in formulating national standards in other fields. He is a leader in organizing, coordination such important works, with great industrial influences.



Zhishun Li
Former Secretary-General
No. 21 research institute of
China Electric Technology
Group

The Latest Manufacturing Process of EPS Motor

DEC 10

Li Zhishun was born in 1962. He holds degrees in both mathematics and economy. Before he started working in equipment manufacturing industry in 1994, he had studied in Japan. Formerly the secretary-general of small and special electric machine industry, he is

currently working in No. 21 research institute of China Electric Technology Group, which is the presidential position of the electric motor industry. In the institute, he is mainly in charge of trading business of the manufacturing equipment.

ABSTRACT

1. Last year 4 types of motors were introduced, including EPS. This is an article on EPS motor published in a Japanese magazine.
2. How to enter the auto industry? How to sell EPS motors? Introduction: EPS equipment solutions for a domestic manufacturer.
3. Introduction of manufacturing techniques for 2 typical types of EPS motors. Videos featuring manufacturing scenes in Japan being the highlight.

A: chain type, manufacturing process, PPT for photos, and complete video recordings for manufacturing scene introduction (including coiling machine, welding, hot jacket, terminal processing)

B: surface-mounted, manufacturing process, PPT for photos, and complete video recording for manufacturing scene introduction (including coiling machine, bus wire processing, testing, enclosure installation)



Robert Deutsch
Director Asia of the Hybrid
Electric Vehicle Business
Unit
Continental AG

48V Eco Drive Mild Hybrid System

DEC 10

Robert Deutsch has worked in the Automotive Electronics and Systems area for more than twenty five years and is currently the Director Asia of the Hybrid Electric Vehicle Business Unit at Continental AG. During his career he has had many assignments in the area of Powertrain Systems including hardware, software and system design for passenger cars, diesel trucks, hybrid and electric vehicles, race cars and transmission controls.

He has previously served as chairman of SAE J1455 and SAE J1939 Physical Layer, SAE J1708/1587 committees. He has worked extensively with Asian customers for the last twenty years. For the past ten years he has lived in Shanghai and has been focusing on business with Asian OEMs.

Robert Deutsch currently holds 23 US and many foreign patents and is a distinguished inventor at Continental.

ABSTRACT

New technical developments have made 48V technology practical for the mass market and part of the solution to achieving fuel economy targets for 2020 in China. This presentation

discusses the benefits which could be achieved with 48V technology and some of the design tradeoffs which must be made to achieve these benefits.



Richard ZHU
Head of Automotive System
Engineering
Infineon

Semiconductors as Enablers for Variable Motor Control in Vehicles

DEC 10

Graduated from E.E. department of Fudan University in 1988, Shanghai, China.

1988-2005: Have variety experiences of R&D on consumer electronics and test/analysis instruments.

Nearly 10 years in automotive electronics and electrification R&D areas.

2005—2011: Technical Manager of Advanced

Engineering in Delphi China Technical Center. Leading Technical Development Program (TDP) on Infotainment (Connectivity) and Active Safety.

2011—Now: Head of Automotive System Engineering in Infineon (Beijing). Leading Concept or Advanced System Development on xEV, Safety and High Efficiency Small Drives.

ABSTRACT

The global trend to reduce CO₂ emission in automotive industry is unchangeable. And the way to reach different level of CO₂ reduction has various approach, from tradition powertrain enhancement for gasoline & diesel to new energy solution like electrification (Stop-Start, Hybrid and pure EV),CNG, fuel cell, etc. Semiconductors were, are and will be the key innovative factors to enable the change. The presentation will give you the overview on Fuel Efficient Powertrains in Traditional and in New Energy Vehicles and

this will help the automotive industry to select the semiconductors to fulfill the targeted fuel efficiency which cover 12V/48V of low voltage board nets and xEV of high voltage board nets. Inside the presentation you will find the detailed on efficiency and losses are equivalent to CO₂ impacts of electrical power & weight, emission reduction can be achieved by optimizing different areas in the car and new semiconductor technology will continuously improve the powertrain efficiency.



Xingyi XU
General Manager
Shanghai Dajun
Technologies ,Inc.

Develop Technology based on Applications: Development Path of New Energy Vehicle and Key Components in China

DEC 10

Dr. Xu Xingyi was Technical Expert, Senior Technical Expert and Manager in Ford Motor Company, responsible for the development of electronic vehicle motor system for a long time. He was also the associate editor of Transactions on Power Electronics for IEEE.

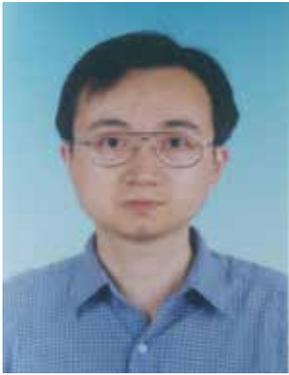
Dr. Xu Xingyi returned to China in 2002 and then initiated his own business. He is now President of Dajun Technologies., Inc. which is dedicated to the R&D and industrialization of e-vehicle motor system. He was an expert responsible for motor system in 863 Electronic

Vehicle Key Project of Ministry of Science and Technology (MOST). He also took a leadership in several new-energy vehicle development projects organized by MOST, Ministry of Industry and Information Technology (MIIT) and Ministry of Finance, to develop motor system for new-energy vehicle with several Chinese vehicle companies; in 2010, he was selected in One Thousand Talents program and became a State Specially Recruited Expert.

ABSTRACT

Starting from the current status and characteristics of new energy vehicle application and its market in China, this report analyzes the development opportunities and challenges for the market of new-energy vehicle and key parts in China. Based on DAJUN TECH's years of experience in developing new-energy vehicle motor system, it also discusses

the development path of new-energy vehicle and components featuring building technology based on applications, serving the market with appropriate technology and promoting technology progress with market application.



Dr. Yuan ZHU

Head of Hans L. Merkle Foundation - Bosch Endowed Chair for Automotive Systems
Tongji University - Infineon Automotive Electronics Joint Laboratory

Research & Development of E-motor Control System

DEC 10

Yuan ZHU received his B.S. degrees in both automotive engineering and electrical engineering from Tsinghua University (Beijing, China) in 1998. He received his Ph.D. degree from Tsinghua University (Beijing, China) in 2003 in automotive engineering. He is currently director of Bosch Endowed Chair Professorship for Automotive Systems at Sino-German school

ABSTRACT

The design and development of E-motor controls present a variety of challenges, ranging from fast cycle times between 50 and 100 μ s to critical safety, to the necessity of having to rely on less established tool chains in this relatively new business domain.

As a basis for the model-based control and implementation of the control algorithms and software, ETAS/ASCET and Simulink was compared for model and simulate the E-motor control system and verify control algorithms. The OSEK realtime operating system and calibration tools were also deployed and integrated into the Simulink toolbox.

And the AUTOSAR platform is introduced into the latest software development. BSW is configured and generated with DaVinci configurator from Vector, and the software components are generated from Embedded Coder.

The hardware-in-loop (HIL) device, a simulator of an inverter with electric motor on the signal level, was adopted to test the software before it

for postgraduate studies in Tongji University (Shanghai, China). His current research interests include automotive embedded system and electric propulsion systems. He was granted the local design & industrialization award by the Infineon in 2012 thanks to design-in penetration of Infineon microcontroller to the VW vehicles.

was tested by test bench. Especially, the HIL can be used to check how the software responds to the simulated faults respectively.

The experiment results show that the CPU load of the TriCore TC1782 dropped by up to 10 percent, enabling us to integrate additional functions into the controller, and the total harmonic distortion of the current waveforms were reduced obviously, thereby enabling enhanced and stable control.

Based on the developed hardware and software platform, the research on the control algorithm of PMSM motor has been carried out conveniently. The random PWM technique, parameter identification, system efficiency optimization and fault-tolerant design have been investigated.

Besides the conventional PMSM control algorithm, sensor-less control method is also developed and implemented on the platform. Features such as torque estimation and rotor temperature are also being developed to ensure the safety of the PMSM operation.



Luming LIU

Regional President
Bosch Engineering GmbH

Application of ISO26262 in NEV

DEC 10

Luming LIU has served as Regional President of Bosch Engineering GmbH, based in Shanghai, China since January 2013. Prior to his appointment as Regional President he served as Vice President-OEM Sales China North Robert Bosch (China) for about 10 years, responsible for China Sales OEM and creating new opportunities for all Bosch Automotive divisions. Prior to joining in Bosch, he worked at TRW (Suzhou) Automotive Electric Co., Ltd as Deputy Operation Director and Engineering & Quality Manager.

Panel: 48V-Hybridization Architecture

DEC 10



Helen, Hui XU
Senior Director
Automotive Division –
China Head
Infineon Technologies
China Co., Ltd

SPEAKER'S BIOGRAPHY

Xu Hui Helen joined Infineon in April 2012 as the Head of China Automotive Electronics. With almost 20 years of working experience in both United States and China, primarily in the automotive industry, Helen has gained deep insight over the years in the setting up and managing the manufacturing plants for China regions. Helen graduated with a Bachelor Degree in Mechanical Engineering from Kettering University, a Master Degree in Mechanical Engineering from Oakland University, and holds a MBA from Walsh College in Michigan, USA. Helen leads the China automotive team providing the best solutions for clients by understanding the needs and trends of local market.



Daniel Benchetrite
Asia System
Engineering Director
Valeo Powertrain
Business Group

SPEAKER'S BIOGRAPHY

Daniel Benchetrite obtained his PhD in Electrochemistry in 2004 in Amiens University (France), in collaboration with CEA (French Atomic Energy Commission). The topic was the optimization of lead acid batteries management in photovoltaic systems. He then joined Exide Inc. in 2005 as laboratory manager and participated in the improvement of 12V batteries for Trucks applications.

In 2006, Daniel joined Valeo, first as Electrochemical Engineer for designing battery management systems algorithms for micro-hybrid applications and then took the lead of Energy Storage Activities, including 48V batteries evaluations.

Since end of 2011, Daniel has taken the lead of Systems and Integration activities in Valeo, covering all the systems from 12V to 48V and moved in China in July 2014 to cover System Engineering activities for Asia.

SPEAKER'S BIOGRAPHY

Dr. Zhenxing Fu currently is Director of Powertrain Systems, SAIC Motors. Prior to joining SAIC Motors, he was a technical specialist, technical fellow and manager, technical specialist at DaimlerChrysler Co, Visteon, and Ford Motor Co, respectively. He has over 15 year experiences in the development of hybrid and electric powertrain systems specializing in energy storage, energy transmission, and energy conversion systems, as well as vehicle torque security and high voltage safety. He has published over 35 technical papers in the field and hold 6 US patents. He is a senior member of IEEE and a member of Sigma Xi.



Robert Deutsch
Director Asia of
the Hybrid Electric
Vehicle Business Unit
Continental AG

SPEAKER'S BIOGRAPHY

Robert Deutsch has worked in the Automotive Electronics and Systems area for more than twenty five years and is currently the Director Asia of the Hybrid Electric Vehicle Business Unit at Continental AG. During his career he has had many assignments in the area of Powertrain Systems including hardware, software and system design for passenger cars, diesel trucks, hybrid and electric vehicles, race cars and transmission controls.

He has previously served as chairman of SAE J1455 and SAE J1939 Physical Layer, SAE J1708/1587 committees. He has worked extensively with Asian customers for the last twenty years. For the past ten years he has lived in Shanghai and has been focusing on business with Asian OEMs.

Robert Deutsch currently holds 23 US and many foreign patents and is a distinguished inventor at Continental.

SPEAKER'S BIOGRAPHY

Luming LIU has served as Regional President of Bosch Engineering GmbH, based in Shanghai, China since January 2013. Prior to his appointment as Regional President he served as Vice President-OEM Sales China North Robert Bosch (China) for about 10 years, responsible for China Sales OEM and creating new opportunities for all Bosch Automotive divisions. Prior to joining in Bosch, he worked at TRW (Suzhou) Automotive Electric Co., Ltd as Deputy Operation Director and Engineering & Quality Manager.



Dr. Zhenxing FU
Director
Powertrain Systems
SAIC Motors



Luming LIU
Regional President
Bosch Engineering
GmbH

Virtual Engine Calibration Optimization

DEC 11



Guoqiang AO

Senior Technical Consultant
Mathworks

Guoqiang AO is a Senior Technical Consultant with MathWorks Consulting Services where he works closely with companies in the automotive and commercial vehicles industries to implement Model-Based Design, improve fuel economy and performance, and reduce emissions. Guoqiang specializes in embedded control systems design, simulation

and optimization for automotive powertrain and HEV/EV, code generation and control model verification. He received his B.A. from the School of Automotive Engineering, Jilin University of Technology and his Ph.D. from the School of Mechanical Engineering, Shanghai Jiao Tong University.

ABSTRACT

In response to demand for increased engine fuel economy and lower emissions, engine hardware must be re-designed and improved frequently. Engine designs also need to be adapted for electrified powertrain applications. Engine designers use high fidelity engine models to simulate and assess the changes to engine hardware design. To assess the impact of hardware changes correctly, the engine control software calibration for variables such as spark advance, throttle position, air-fuel ratio, and turbocharger wastegate position must be re-adjusted so that the benefits of hardware changes can be realized. Unfortunately the re-calibration step in the design process currently requires approximately 2 days of expert manual labor, so re-calibration is rarely done for every engine hardware design change in simulation. Without re-calibration of the engine every time the engine design is changed, the effects of design changes cannot be assessed correctly in terms of vehicle fuel economy and emission predictions, and the results of the changes will not be known until the engine is constructed and tested in the dynamometer much later in

the development cycle.

This presentation will provide an overview of Virtual Engine Calibration Optimization (VECO), which is an approach to automatically generate fully optimized engine calibrations every time an engine hardware design change is proposed, eliminating the human labor required in re-calibration, and reducing the waiting time for the calibration to only 40 minutes from 2 days. VECO has been successfully applied to a CAE model of a 1.5L turbocharged SI engine to produce optimal engine calibration tables in only 40 minutes using Parallel Computing on Amazon Cloud.

A reactive optimizer has been developed to minimize brake-specific fuel consumption (BSFC) over a 15x15 grid of engine torque and speed operating points, subject to limit constraints on turbocharger speed and engine exhaust temperature. With this new capability, engine designers can immediately and fully assess engine hardware design changes across the engine operating range without prohibitively expensive support from downstream calibration teams.

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Active Observing Based Control and its Application in Diesel Engines Based on Multi-core ECU

DEC 11

Hui Xie, male, born in August 1970, professor and doctoral tutor. Prof. Hui Xie received his PhD in propulsion machine and engineering at Tianjin University in 1998. And now he holds a position as professor and vice director in State Key Laboratory of Engines at Tianjin University, also as director in Tianjin University – Infineon Automotive Electronics Joint Lab.

His research topics are control technology for combustion process on ICE, theories and methods for control of gasoline HCCI/CAI engines, software and hardware for electronic control of engine and vehicle, calibration method and technology for electronic control system, and control of EV and HEV.

ABSTRACT

In order to meet the conflicting needs of high control performance, low computational cost, as well as remarkable safety, we propose the active observing based control method operated in multi-core ECU.

Via the proposed method, the complex engine control problems are transformed into the uncertainties observation and rejection problems. These uncertainties are then observed based on the input and output information during the control process,

either in a fast manner by the extended state observed, or in a slow manner using the self-learning algorithm. To make the proposed controller realizable and run safely, a multi-core high performance ECU is developed based on the Infineon AURIX micro-controller.

Finally, three implementation cases is presented for the diesel engine control, including the VGT-EGR control and self-learning friction model, with engine test bench results demonstrated.

Xie HUI

Vice Director, State Key Laboratory of Engines
Tianjin University

Go Green-Power New Energy Vehicle

DEC 11



Simon HUANG

Marketing and Business Development Manager
Freescale Semiconductor

Mr. Huang Xi is the Development Director of the automotive electronics market for Freescale China, and is responsible for the market planning and business development of the automobile instrument and infotainment system. Mr. Huang has multi-year experience in product development, application support, and market exploration in the field of automotive electronics.

ABSTRACT

Discuss the Freescale Auto Motor Control Enablement Solutions. Review the Automotive Math and Motor Control Library Set software, Motor Control Development Kit series with Freescale's out-of-the box experience and the Motor Control Application Tuning tool (MCAT).



Chunyang ZHENG
Director of Electric and Electronic Product in Hangsheng Electronic Research Institute

Systematic Solutions of Hangsheng Electronic Products in New-energy Vehicle

DEC 11

Mr. Zheng graduated from Control Science and Motor Engineering Department of Harbin Institute of Technology with a Master's Degree of Sciences. He has years of experiences in developing new-energy electronic products. He is now Director of Electric and Electronic Product in Hangsheng Electronic Research Institute, responsible for the development of

motor controller, high-voltage DC/AC inverter. He took the leadership in the development of motor controllers ranging from 40kW to 200kW and electric and electronic unit integration systems, which are to be applied in new-energy passenger vehicles, buses and commercial vehicles.

ABSTRACT

The rapid development of new-energy vehicle is pushing our demand for the integration of power system, so we urgently need high-integration solutions for power control electronic units. This trend will be appreciated by more and more OEMs and make higher demands for components manufacturers. I would like to discuss about problems like heat distribution of all integrated components, EMC

interference and work efficiency of the whole system.



Anna Stefanopoulou
Professor of Mechanical Engineering Department University of Michigan

Safety Critical Functionalities in Battery Management

DEC 11

Anna G. Stefanopoulou is a Professor at the Mechanical Engineering Department and the Director of the Automotive Research Center at the University of Michigan. She is an ASME and an IEEE Fellow, the Founding Chair of the ASME DSCD Energy Systems Technical Committee, a member of the SAE Dynamic System Modeling Standards Committee and a member of a U.S. National Research

Council committee on Vehicle Fuel Economy Standards. She has co-authored a book on Control of Fuel Cell Power Systems, 10 US patents, 5 best paper awards and more than 200 publications on estimation and control of internal combustion engines and electrochemical processes such as fuel cells and batteries.

ABSTRACT

At low temperatures the efficiency of batteries decreases due to their high internal resistance. Every five (5) degree Celsius reduction in temperature leads to approximately a two (2) percent decrease in fuel economy of plug-in hybrid electric vehicles. Operating in such conditions also deteriorates drivability. In the context of global platforms operating at wide environmental conditions, and particularly, harsh & long winters, this presentation will

highlight the development of a battery management system that accounts for electrical and thermal constraints. We show how to account for and manage the dynamic limitations of the batteries with stringent design criteria, e.g., fast warm-up with minimum heat loss for maximum range, or no cooling due to volume and weight considerations.



Tao WAN

Manager
Business Unit Electronics
and Electronics
FEV China Co. Ltd.

Development of Generic Control Functions for Battery Management Systems

DEC 11

Education:

- From 2001 to 2007: Master (Diplom Ingenieur) of electrical engineering at RWTH Aachen University, Germany
- From 1996 to 2000: Bachelor "Marketing", Beijing International Studies University, China

Position:

- From 2013 till now: Manager of Business Unit Electronics and Electronics at FEV China Co. Ltd.

- From 2007 to 2013: Engineer at FEV GmbH, Aachen, Germany

Key projects / Experience:

- Model-based software development for HEV/ EV application including software specification, implementation, validation and verification
- Functional safety management and development processes
- Requirement management
- System engineering

ABSTRACT

Legislation and decreasing availability of fossil burnings are driving the development of electric vehicles being one solution for clean transport. However, obstacles for the market penetration of batteries are drive range, weight as well as low energy density and peak power. As a result, many automotive manufacturers follow a migration strategy by electrifying the conventional powertrain through various hybridization concepts. One of the key technical challenges is the development of appropriate embedded control software: Safety requirements are strict and battery configurations are manifold. Additionally, battery power and capacity are heavily influenced by the battery management system monitoring and controlling multiple cells, relays, sensors, actuators and high voltage loads

This contribution presents an approach where the variability and efficiency of the battery management systems is dominated by a

systematic software architecture approach: Based on existing automotive standards, especially Automotive Open System Architecture (AUTOSAR), further design principles are defined to fill conceptual gaps in these standards with application experience of various industry projects.

This paper focuses on the development of a modular software for a battery management system based on the system topology, functional requirements and key standards like ISO 26262 enabling "plug-and-play" capability of the software with stable interfaces. Specification, implementation and testing steps are supported by a consistent tooling framework. As a result, a software product line is established which we call "Powertrain control architecture Enabling Reusable Software development for Intelligent System Tailoring" (PERSIST).

SPEAKER BIOGRAPHIES AND ABSTRACTS



ZhiHui LI
Senior Technical Consultant
Mathworks

Adopting ISO 26262: Lessons Learned in Ramping Up On ISO 26262-compliant Development

DEC 11

Zhihui Li is a senior technical consultant who works with companies in the automotive and commercial vehicles industry to implement Model-Based Design and address electronic control unit development. Zhihui specializes in embedded code generation, system integration, and tools customization. With

10 years of automotive industry experience, Zhihui worked for CARTAC, Delphi, and Valeo before joining MathWorks. Zhihui holds a B.S. in automation from Inner Mongolian University and an M.S. in automation from Tianjin University.

ABSTRACT

Model-Based Design allows early verification of embedded controls during development such that errors can be detected and fixed when the cost of correction is comparatively lower. With the advent of electrified powertrain applications, design complexity and amount of new content are driving engineers to build a comprehensive model-based verification workflow. However, due to the impact on many aspects of the development process and different engineering roles, such model-based verification can be challenging to create and implement. Companies doing Rapid Prototyping (RP) often try to extend

RP directly into a production verification workflow by incrementally improving individual verification activity as oppose to take a holistic view of the entire process.

The down side of such an approach as those companies transition to ISO 26262 compliant development process, the investment required for implementing such a process as well as the risk of not being able to integrate individual verification activity at the end are high. This presentation will share common experience of implementing a practical model-based verification strategy based on lessons learned.

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Bus Fuel Cell Hybrid Power Management – Case Study

DEC 11



Buz McCain
Systems Engineering
Platform Manager
Ballard Power Systems Inc.

Buz McCain (PhD, PMP) is Systems Engineering Platform Manager for large fuel cell systems, including Heavy Duty mobile and Distributed Generation, at Ballard Power Systems Inc (Burnaby, British Columbia), as well as functional manager for Ballard's Systems Engineering Group. Buz joined Ballard in 2008, and oversees the team of 20 engineers that make up the Systems Engineering Group. His Mechanical Engineering education (emphasis on automatic control) includes degrees from

UCLA (BSME), UC Berkeley (MSME), and the University of Michigan (PhD).

For the 15 years prior to joining the Ballard Team, Buz fulfilled various roles within Toyota Motor Corporation. His began his career at Toyota as a Chassis and Drivetrain development engineer, and reached the level of Executive Program Manager for Vehicle Development, N Platform (light truck), in 2004. His career includes multiple overseas assignments in Japan.

ABSTRACT

Studies have shown that operating conditions, especially high cell voltage occurring during idle running of the vehicle, and load cycling, are major contributors to chemical and mechanical degradation of the fuel cell [1, 2]. With aim to link these findings with the hybrid powertrain design and operation, we have demonstrated the effect of power management in the hybrid system on the fuel cell lifetime by comparing two scenarios: First, we analyzed the operational data from hybrid fuel cell busses in Whistler, BC, Canada. Second, an alternate power management scheme was considered for the same size stack, where the dynamics of the load were primarily handled by the battery instead of the fuel cell.

The Whistler fuel cell bus fleet is powered by Ballard FCvelocity™-HD6 150kW modules in a hybrid configuration with a 47kW Li-Ion battery pack. A sample data from five buses, for 300 hours of operation was selected evenly from summer and winter. The average power of the fuel cell was 72kW and its load cycle showed tracking the peak demands of the load almost completely. The contribution from the battery was small, with maximum of 5% state-of-charge (SoC) utilization for the entire operation. To quantify the voltage state of the

stack, the average cell voltage was quantized into "low", "medium", and "high" bins.

The duration at which the voltage was in each bin was then obtained and fed to a degradation estimation model, developed in-house, to find the lifetime of the stack.

Alternatively, we hypothesized a modified power management scheme for the same hybrid setup, where the dynamics of the load were "filtered" by the battery. The fuel cell, in this "load leveling" scenario, functions as a battery charger (similar to a series hybrid car) relying on wider range of battery SOC utilization, delivering constant (average) power to the hybrid system. The degradation of the fuel cell was estimated using the same technique as above.

We have observed that when the fuel cell operates in a constant-power mode, the expected lifetime is more than doubled. The results imply that with proper sizing of the storage components in the hybrid system (battery and/or ultracapacitor), and optimizing the power management controller to shift the dynamics of the load to the storage(s), we can considerably extend the lifetime of the fuel cell which decreases the total cost of ownership of the overall powertrain.



Dr. Lawrence Poon
Principal Consultant
Automotive & Electronics
Hong Kong Productivity
Council

Application of Low-Cost Image Processing Technique in Active Safety System

DEC 11

Dr. Poon is the Principal Consultant of Automotive Parts and Accessory System R&D Centre and Head of Automotive Unit of Hong Kong Productivity Council. He is also serving as Vice Chair of SAE HK and Section-Chair of HK Bio- & Eco- Energy Industry Association and Fellow of Green Strategy Association. He got the doctoral degree in 2004. His major research interests focus on the design and application of intelligent materials and smart structures.

In the recent years, Dr. Poon took lead a team of professional Engineers and researchers with rich experiences in EV and automotive electronics system development. He is an expert in the design of Automotive Safety Systems and EV Charging Infrastructure. In the recent years, Dr. Poon and his team

successfully developed new generation of EV charging network 'EV-MegaNet' for CLP. Dr. Poon is also a project manager and principal investigator in more than 30 R&D projects related to green mobility, active safety, infotainment as well as intelligent headlight system. In addition to the strong experience in Automotive R&D, Dr. Poon also delivered number of consultancy services in product testing to support the automotive parts and accessory systems industry.

Dr. Poon graduated with first class honor degree from HKPolyU Mechanical Engineering Department in 1998. He is currently a visiting lecturer in HKPolyU for number of subjects related to Automotive Safety and Reliability, and Product Design.

ABSTRACT

Rear-end collision are common in traffic accidents. According to a survey by the National Highway Traffic Safety Administration (NHTSA) of the United States, around 88% of the rear-end collisions are caused by inattention of the driver or following too close from the preceding vehicles. Since 2010, the US Department of Transport (USDOT) has adopted forward collision avoidance system in its New Car Assessment Programme (NCAP) rating scheme. It is foreseen that the application of such Advanced Driver Assistant Systems(ADAS) shall achieve growth with double-digits by 2015.

HKPC R&D team successfully completed a series of R&D projects with focus on the development of the required ADAS products

under the Automotive Parts and Accessory Systems R&D Centre (APAS) funding scheme over the last few years. A Forward Collision Warning (FCW) system was developed based on robotic vision technology. The system requires only one camera to recognize and monitor the frontal vehicle locations for the evaluation of their relative distance and possible time to collision so as to alert driver for the necessary actions.

The talk aims to share with audiences the latest technology trend and regulation being adopted in the European and Asian market on the use of active safety system. Also, a low cost solution for collision warning will be discussed.



Mr Rick MO
Senior Consultant
Automotive and Electronics
Division
Hong Kong Productivity
Council

Development of Infotainment System for Mass Transportation Vehicles based on MOST150 System Architecture

DEC 11

Mr. Mo is a Senior Consultant of Automotive and Electronics Division in Hong Kong Productivity Council (HKPC). Mr. Mo graduated from Heifei University of Technology, China in 2002 and received a Bachelor Degree. Mr. Mo is an expert with solid product design and simulated analysis and proficient in automotive industrial design and system integration.

Before joining HKPC, Mr. Mo had been a Research Assistant in Chinese University of Hong Kong (CUHK) and participated in the development of Battery Management System, Electric Drivetrain System and Omni-directional

Steering System for the Hybrid Electric Vehicle. Since Mr. Mo joined HKPC in 2008, he has been mainly responsible to manage the R&D projects relating to automotive and electronics including the Design Guideline of Anti-lock Braking System, MOST150 based Onboard Infotainment System and Motorcycle Electronic Fuel Injection System. Mr. Mo also participated in more than 10 automotive R&D projects, for examples, Electric Bus, Adaptive Frontlight System, Advanced Driver Assistance System and EV-MegaNet Charging System etc. Now Mr. Mo is the Vice Chairman Assistant of Green Mobility for SAE Hong Kong.

ABSTRACT

The HK Automotive Parts and Accessory Systems R&D Centre (APAS) successfully developed a high speed and multi-function infotainment system developed based on MOST (Multimedia Oriented System Transport) technology. We are the first R&D team developed MOST150 based product in the market. We have fully utilized the system capacity to develop a fibre-optic connected infotainment system with one single main unit and 60 terminals riding the platform.

As it is still at the beginning stage for digital TV broadcast and MOST technology, there are very limited chipsets readily available in the market to route the received digital TV stream to MOST network. We have successfully implemented the necessary functional blocks for putting multimedia streams to MOST

network via implementation of embedded hardware, firmware, as well as FPGA (Field Programming Gate Array). The implementation of fast re-multiplexing of multiple multimedia streams before putting into MOST network is one of the technical challenges. We have completed this function by making use of advanced FPGA and HDL programming. The methodology of routing the re-multiplexed multimedia streams, as well as the managing different media sources into the MOST network is also addressed.

Speaker will share with audiences not only on novel system architecture but also the new business model developed due to the success of MOST150 implementation on mass transportation systems.



Ms. Ketty YU
Managing Director
Infotronic International Ltd

Design of Software and Hardware Platform for the Integrated Configurable Instrument Cluster

DEC 11

Ms. Ketty Yu is the Managing Director of Infotronic International Ltd. and Infotronic Automotive System Ltd. (ITAS). She holds a BSc. in Manufacturing Engineering and Communications Technology. She has started up the business as entrepreneur since 1988 and has the more than twenty year's experiences in the OEM electronics and automotive electronic systems from design to manufacturing. She

started Infotronic International Ltd. at 1999 which was the exclusive china supplier of the Global Oil seismic equipment company and the tier supplier of the USA Automobile Industry. In 2006, she established Infotronic Automotive Systems Ltd. to design, develop, and manufacturing the key automotive electronic control system to European/USA and China Automotive OEM.

ABSTRACT

This platform successfully developed to assist instrument panel designer or manufacturer to configure display and to handle associated signals in a user friendly approach. As a result, the R&D cost and development lead-time can be reduced significantly.

Fully digitized instrument panel is an ideal solution for high-end vehicles or even HEV / BEV to display additional information such as safety or SOC related messages on board. The LCD configurable dashboard becomes a

centralized and open communication channel that is able to integrate and harmonize according to OEM's requirements, any kind of visual information coming from present and future in-car systems at a re-configurable and "information on demand" approach with no distraction and minimum workload to drivers.

Speakers will share with audiences about the real application of digital clusters on new car models and the simplified development process for the similar products.



Mr. Henri HE
SBU General Manager
Bureau Veritas Consumer
Products Services, China

Test Program Setting and Achievement of ELVH Charging Equipment

DEC 11

Mr. Henri joined LCIE China, Bureau Veritas Consumer Product Service Electrical & Electronics Division in 2005 with cross-function experience in various fields of customer service, key account management and business development. He was promoted to play a role as General Manager, North China SBU E&E Local and Automotive in 2011. Currently he serves as Greater China SBU GM of Automotive division and new project development director as well. He led a team to successfully develop

the early generation of testing, inspection and certification of auto and E&E field.

Prior to joining Bureau Veritas, Henri has got 3 years of commercial and purchasing experience with Trayton Timbers and Adidas in Europe, Africa and China region. He has been with BV for 9 years and also has experience in various management roles. He holds his bachelor degree in Business French from Shanghai Institute of Foreign Trade.

ABSTRACT

In the presentation, the speakers will address on the EV Readiness in China and Hong Kong. With a growing demand for electric vehicles, many countries, including the European Union (EU), have implemented mandatory requirements for many of the components of an Electric Vehicle (EV). As such, any EV components wishing to enter the EU market will need to obtain a CE/CB certificate.

However, with a lack of accredited testing organizations in China, the challenge for many EV component suppliers is finding, and partnering, a trusted and capable testing and certification provider in overcoming the challenging technical barriers within this blossoming market in an efficient and effective manner.



Xinqiang Li
Director of Renewable Energy
Test Lab
Shanghai Electrical Apparatus
Research Institute(Group) Co.,
Ltd

Test Program Setting and Achievement of ELVH Charging Equipment

DEC 11

Mr. LI Xinqiang, service in Shanghai Electrical Apparatus Research Institute(Group) Co., Ltd. He is a director of renewable energy test lab of the national quality supervisory and testing center for smart grid user-side product (system). He has been engaged in low-voltage

electrical products testing technology research over ten years, and currently primarily responsible for testing technology service team management and related researches in field of EV charging equipment, PV electric equipment and so on.

ABSTRACT

In the presentation, the speakers will address on the EV Readiness in China and Hong Kong. With a growing demand for electric vehicles, many countries, including the European Union (EU), have implemented mandatory requirements for many of the components of an Electric Vehicle (EV). As such, any EV components wishing to enter the EU market will need to obtain a CE/CB certificate.

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Mr Kelvin HUANG
General Manager of Brand and
Product
Surface Mount Technology
Limited

Ezicharge Wireless Technology

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Mr. Kelvin Wong is General Manager at Brand and Product of Surface Mount Technology Limited. He has been serving Surface Mount Technology for 10 years and is responsible for the overall business development to the latest wireless charging technology 'ezicharge'.

Kelvin has full experience in handling business development and manufacturing supply chain,

and marketing strategy as he is also the formal Plant Manager at Suzhou manufacturing base under Surface Mount Technology Group, and he is also the Assistant General Manager at Corporate Marketing inside the same group. He had received his Master degree in Business Executive Management, Royal Roads University in Victoria B.C. at 2010.

ABSTRACT

A wireless charging system is implemented by placing a compliant receiver on the transmitter coil. Charging the battery of mobile devices without the use of cords constitutes wireless charging.

Wireless charging uses an electromagnetic field to transfer energy between two objects. This is usually done with a charging station. Energy is sent through inductive coupling to an electrical device, which then can use that energy to charge batteries.

There are numerous applications in mobile ecosystem; such as having wireless charging

embedded in commercial outlets such as café's, cinema halls, airports, restaurants, office and so on.

Global implementation of wireless charging is a step towards using universal adapter for electronic gadgets in an attempt to reduce the amount of electronic waste sent to landfill every year.

There are conflicting standards with regards to wireless charging. Standards and interoperability are the major concerns in the market as of today. In this presentation, we give a comparison on the different standards.

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EXHIBITOR PROFILES

Exhibitor Directory text is published as submitted by exhibiting companies.

D



dSPACE Mechatronic Control Technology (Shanghai) Co.,Ltd

Unit 1-5 , 11FL, Middle XiZang Road 18, Harbour Ring Plaza, Shanghai, China
www.dspace.com

BOOTH: 1

dSPACE is the world's leading provider of hardware and software tools for developing and testing sophisticated electronic control systems. For over 20 years, dSPACE's high-quality, off-the-shelf software and hardware tools have empowered engineers to design and innovate, while dramatically reducing development time and cost. dSPACE's pioneering products such as the MicroAutoBox rapid prototyping systems, hardware-in-the-loop (HIL) simulators, and the automatic production code generator TargetLink have become de-facto standards for developing electronics in automobiles.

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F



www.freescale.com

BOOTH: 3

Company detail profiles, please find in gold sponsor on Page 26

G



Shanghai G-Pulse Technology Co., Ltd.

Block 69, 1000# Zhangheng Road, Pudong District, Shanghai, 201203
Phone: 021-6165-7199
www.g-pulse.net

BOOTH: 2

Shanghai G-Pulse Technology Co., Ltd. was founded in 2004, as a member of INTRON Group.

Aiming at local automotive industry

customer, G-Pulse provide corresponding products and services to each stage of Automotive Electrical Control Unit products development cycle.

The company moved into Zhangjiang Hi-Tech Park since 2009, and currently G-Pulse owned laboratories, and over 60 employees.

S



SIEMENS PLM Software

9F, SCB Tower, No. 7, Wangjing Zhonghuan Nanlu, Chaoyang District
www.plm.automation.siemens.com

BOOTH: 4

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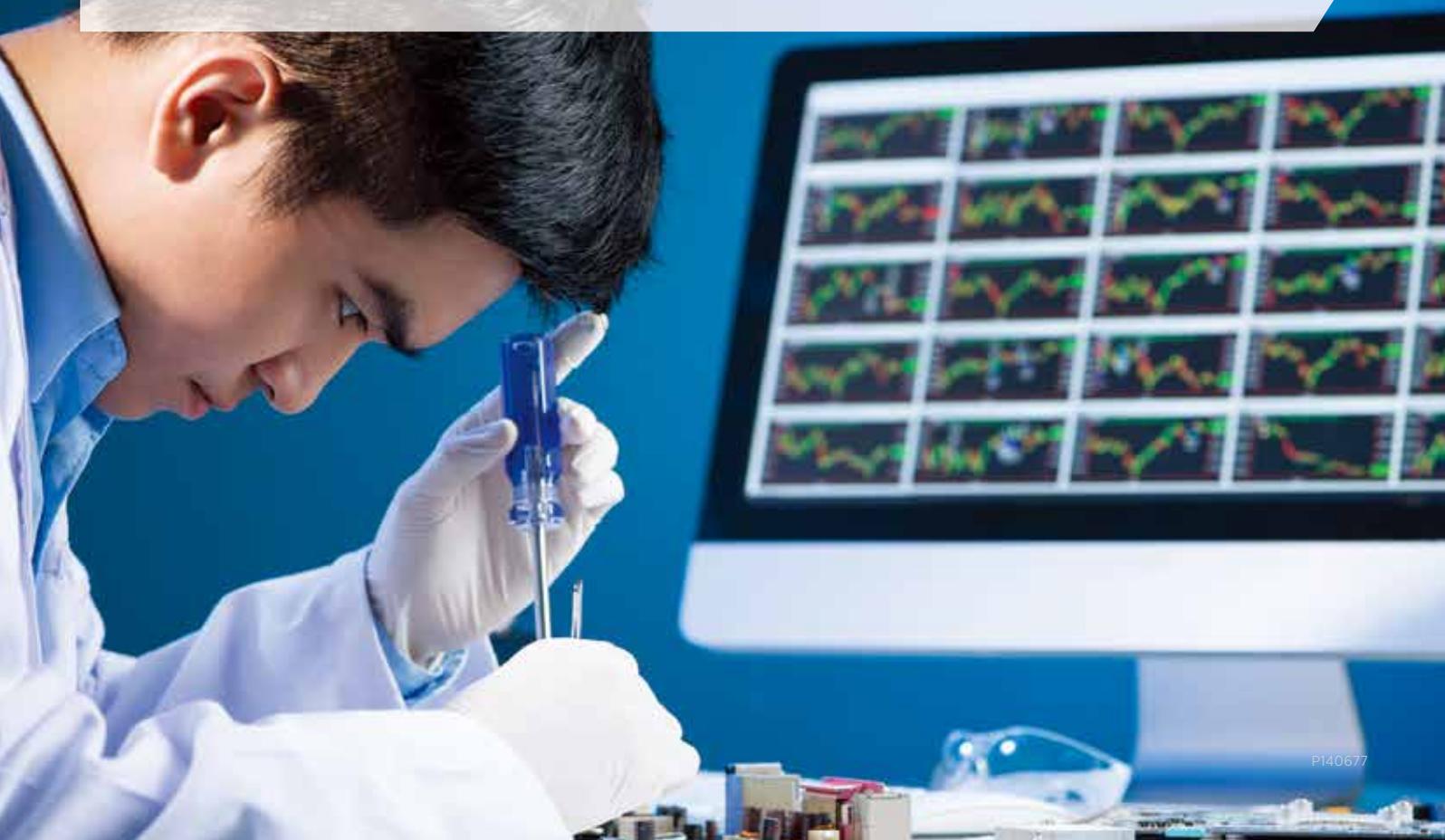
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