Automotive Summit 2013

Proceedings

“Moving Towards Global Green Automotive Industry”

20-21 June 2013

BITEC, Bangkok

THAILAND AUTOMOTIVE INSTITUTE
INTRODUCTION

Automotive Summit 2013
“Moving towards Global Green Automotive Industry”

Automotive Summit is a high-level, annual meeting on vehicles and automotive parts engineering, technology, production efficiency and human resources for Thailand and ASEAN Automotive and automotive parts industries. This annual summit is gathering of the regional’s top specialists, engineers and industry leaders, and has become synonymous with the very latest and most important advances in regional automotive trend, technology, development and production in ASEAN.

Presently, the Southeast Asia is gearing up to become a global hub for the production and sale of environmentally friendly vehicles, while fuel prices remain high and there is greater concern for the environment, more energy efficient vehicles are also increasing in demand. The green movement has hit the automotive industry as all automotive manufacturers are focusing their attention on producing more environmentally friendly and fuel efficient vehicles.

Automotive industry is one of the Thailand main industries which generate economic value for the country. The future challenges must be taken into consideration in formulating development strategies for sustainable growth of the industry, especially the global trend of Green Automotive technology that focuses on environmental and safety. The goal for future product development is to strive for a green and safety vehicle in compliance with the international standards. The 4 major factors that ensuring the sustainable development of Thailand Automotive Industry are; favorable government policy to promote the investment together with encouraging the domestic market expansion through systematic integration, developments to accommodate technology changes by enhancing the capacity of green technology development, increase domestic value creation through productivity improvement for parts manufacturers, together with quantitative and qualitative human resources development.

Why you cannot afford to miss AUTOMOTIVE SUMMIT 2013

“Automotive Summit 2013” under the concept “Moving towards Global Green Automotive Industry” is an exclusive conference that will offer visions, best practices and experiences by government and private sectors. It is a leading international platform for discussing, debate and the exchange of technical knowledge together with being the networking platform for top executives and decision makers of automotive parts industry in ASEAN. This is a co-located highlight activity of Manufacturing Expo, Thailand’s Largest Manufacturing and Supporting Industries Event for Automotive Parts.

Concept : “Moving towards Global Green Automotive Industry”

Themes: 
A1 - Human Resource Development in Automotive Industry  
A2 - Human Resource Development in Rail Industry  
B - Production Technology & Materials Engineering  
C - Future Automotive Technology
Date: Thursday 20 – Friday 21 June, 2013

Venue: Bangkok International Trade & Exhibition Centre (BITEC), Thailand

Organized By:
- Thailand Automotive Institute (TAI)
- Reed Tradex

Supported By:
- Thai Automotive Industry Association (TAIA)
- Thai Auto-Parts Manufacturers Association (TAPMA)
- ASEAN Automotive Federation (AAF)
- Australia Trade Commission (Austrade)
- European ASEAN Business Center (EABC)
- EU SWITCH Asia
- Kasetsart University (KU)
- King Mongkut’s Institute of Technology Ladkrabang (KMITL)
- King Mongkut’s University of Technology Thonburi (KMUTT)
- Siam University

Who should attend:
- Executives in Automotive Manufacturing, Auto-Parts Manufacturing, and Supporting Industries
- Industrialists from Automotive Manufacturing Industries, Auto Part Productions and Suppliers
- Members and Executives of Related Association/Organization
- Government Officers from Ministry of Industry and Trade, and related Institutions.
- Members of the press

Why should attend:
- Hear the opportunities of Thailand and ASEAN automotive parts and supporting industries for global green automotive industry.
- Get new knowledge to maximize opportunities for expanding markets to mainstream future automotive technologies
- Networking with executives, business leaders, senior government officials, and the industrialists who are attending the summits.

Registration Fees:
Free of charge. According to the limited seats available, the Pre-registration are required.
## Automotive Summit 2013 Program

**“Moving towards Global Green Automotive Industry”**

**Opening Day**

**Day 1 - Thursday 20 June 2013, 13.00-16.30 hrs.**

**Grand Hall 202-203, 2nd Floor, BITEC, Bangkok**

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<td>14.00 – 14.05 hrs.</td>
<td><strong>Opening Ceremony</strong>&lt;br&gt;<strong>Welcome Address by Dr. Patima Jeerapaet</strong>&lt;br&gt;President, Thailand Automotive Institute</td>
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<td>14.05 – 14.10 hrs.</td>
<td><strong>Summit Remark by Mr. Chainarong Limpkittisin</strong>&lt;br&gt;Managing Director, Reed Tradex Company Limited</td>
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<td>14.10 – 14.15 hrs.</td>
<td><strong>Opening Remark by Dr. Witoon Simachokedee</strong>&lt;br&gt;Permanent Secretary, Ministry of Industry</td>
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<td>14.15 – 14.20 hrs.</td>
<td>Photo Session</td>
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<td>14.20 – 14.50 hrs.</td>
<td><strong>Special Presentation:</strong>&lt;br&gt;“Moving Towards Global Green Automotive Industry: Why and How?”&lt;br&gt;by Dr. Toshio Kobayashi&lt;br&gt;President, Japan Automobile Research Institute (JARI)</td>
</tr>
<tr>
<td>14.50 – 16.30 hrs.</td>
<td><strong>Panel Discussion:</strong>&lt;br&gt;“ASEAN in the Eyes of Global Green Automotive Manufacturers as Strategic Hub of Auto Production to the World”&lt;br&gt;by Mr. Peter Wolf&lt;br&gt;Automotive Chairman, European ASEAN Business Centre (EABC)&lt;br&gt;Mrs. Piengjai Keawsuwan&lt;br&gt;President, Thai Automotive Industry Association (TAIA)&amp; President, ASEAN Automotive Federation (AAF)&lt;br&gt;Vice President-Government Relations, Nissan Motor (Thailand)Co.,Ltd.&lt;br&gt;Mr. Wu Huan&lt;br&gt;President, SAIC Motor-CP Co.,Ltd.</td>
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<tr>
<td>16.30 hrs.</td>
<td>End of Program</td>
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### Remarks
- All presentation will be conducted in English.
- The organizer reserved the right to adjust program without prior notice.
- Coffee break: served in the room.
## Automotive Summit 2013 Program

**“Moving towards Global Green Automotive Industry”**

### Technical Sessions

**Day 2 - Friday 21 June 2013, 08.30-16.30 hrs.**

**Room No 215-217, 2nd Floor, BITEC, Bangkok**

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<td>13:00-16:30</td>
<td><strong>Theme A2:</strong> Human Resource Development in Rail Industry</td>
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<tr>
<td>08:30-16:30</td>
<td><strong>Theme B:</strong> Production Technology &amp; Materials Engineering</td>
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<tr>
<td>08:30-16:30</td>
<td><strong>Theme C:</strong> Future Automotive Technology</td>
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Automotive Summit 2013 Program
Parallel Sessions Theme A1
“Human Resource Development in Automotive Industry”
Day 2- Friday 21 June 2013, 08.30-12.00 hrs.
Seminar Room 217, 2nd Floor, BITEC, Bangkok

= Morning =

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<td>08.30 – 09.00 hrs.</td>
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| 09.00 – 09.45 hrs. | “Role and Direction of Vocational Education on Automotive Human Resources Development”  
                     by Mr. Jiang Wongsa wassuriya  
                     Advisor of Policy and Planning,  
                     Vocational Education Commission, Ministry of Education |
                     by Mr. Thavorn Chalassathien  
                     Acting Secretary General, The Federation of Thai Industries (FTI)  
                     Director, The Human Capacity Building Institute |
| 10.30 – 10.50 hrs. | Coffee Break                                                          |
| 10.50 – 11.20 hrs. | “ASEAN Opportunities on Workforce Development in Automotive Industry”  
                     by Mrs. Achana Limpaitoon  
                     President, Thai Auto-parts Manufacturers Association |
| 11.20 – 11.50 hrs. | “Role of Human Resource Development in Automotive Industry”  
                     by Mrs. Chureerut Suwanvithaya  
                     Vice President, Thailand Automotive Institute |
| 11.50 – 12.00 hrs. | Conclusion & End of Program                                           |

Remarks
- All presentation will be conducted in Thai.
- The organizer reserved the right to adjust program without prior notice
# Automotive Summit 2013 Program

## Parallel Sessions Theme A2

### “Human Resource Development in Rail Industry”

**Day 2 - Friday 21 June 2013, 13.00-16.30 hrs.**

**Seminar Room 217, 2nd Floor, BITEC, Bangkok**

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<thead>
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<th>Time</th>
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<tbody>
<tr>
<td><strong>13.00 – 13.30 hrs.</strong></td>
<td>Registration</td>
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</table>
| 13.30 – 14.00 hrs. | **“Human Resource Development in Rail Industry” (T)** by **Mr. Nakorn Chantasorn**  
Advisor to President, National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology |
| 14.00 – 14.30 hrs. | **“Rail System's Education” (T)** by **Associate Professor Thanya Kiatiwat, Ph.D.**  
Dean, Faculty of Engineering, Kasetsart University |
| 14.30 – 15.00 hrs. | **“Human Resource Development of State Railway of Thailand” (T)** by **Mr. Boonsom Wiengchai**  
Chief of Center Attached to the Governor, State Railway of Thailand |
| 15.00 – 15.20 hrs. | Coffee Break                                                           |
| 15.20 – 15.50 hrs. | **“Overview of Rail Engineering in Thailand” (T)** by **Assistant Professor Wichai Siwakosit, Ph.D.**  
Deputy director of the International Undergraduate Program, Faculty of Engineering, Kasetsart University |
| 15.50 – 16.20 hrs. | **“Overview of Rail Engineering in Europe” (E)** by **Professor John Roberts, Ph.D.**  
Visiting Professor of Mechanical Engineering and Honorary Chairman, Rail Engineering Center, Kasetsart University |
| 16.20 – 16.30 hrs. | Conclusion & End of Program                                           |

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**Remarks**

(T) Presentation will be conducted in Thai.

(E) Presentation will be conducted in English.

- The organizer reserved the right to adjust program without prior notice
## Automated Summit 2013 Program

### Parallel Sessions Theme B

**“Production Technology & Materials Engineering”**

**Day 2** - Friday 21 June 2013, 08.30-12.00 hrs.

**Seminar Room 216, 2nd Floor, BITEC, Bangkok**

### Morning

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<thead>
<tr>
<th>Time</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 09.00 hrs.</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 09.00 – 09.30 hrs. | **“Technology Trend in Automotive Part’s Production”** (E)  
by Mr. Taira Terutaka  
General Manager, Marketing Engineering and Research Development,  
Thai Summit Group |
| 09.30 – 10.00 hrs. | **“Metal Forming Technology in Automotive Industry”** (T)  
by Associate Professor Dilok Sriprapai  
Head, Department of Tools and Materials Engineering,  
Faculty of Engineering,  
King Mongkut’s University of Technology Thonburi |
| 10.00 – 10.30 hrs. | **“Materials and Corrosion in Exhaust Gas Pipe”** (T)  
by Associate Professor Gobboon Lothongkum, Dr.-Ing.  
Department of Metallurgical Engineering,  
Faculty of Engineering, Chulalongkorn University |
| 10.30 – 10.50 hrs. | Coffee Break |
| 10.50 – 11.50 hrs. | **“High Strength Steel for Automotive Parts”** (T)  
by Assistant Professor Vitoon Uthaisangsuk, Dr.-Ing.  
Department of Mechanical Engineering,  
Faculty of Engineering,  
King Mongkut’s University of Technology Thonburi |
| 11.50 – 12.00 hrs. | Conclusion & End of Program |

### Remarks

- (T) Presentation will be conducted in Thai.
- (E) Presentation will be conducted in English.
- The organizer reserved the right to adjust program without prior notice
## Automotive Summit 2013 Program

### Parallel Sessions Theme B

“Production Technology & Materials Engineering”

Day 2 - Friday 21 June 2013, 13.00-16.30 hrs.
Seminar Room 216, 2nd Floor, BITEC, Bangkok

= Afternoon =

<table>
<thead>
<tr>
<th>Time</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00 – 13.30 hrs.</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 13.30 – 14.00 hrs. | “Zero Defect Injection Molding with Cavity Pressure Measuring Systems” (E)  
                    by Dr. - Ing Oliver Schnerr  
                    Head of Sales & Head of Business Field Plastics,  
                    Kistler Instrument (Thailand) Co., Ltd. |
| 14.00 – 14.30 hrs. | “Materials and Technology in Automotive Accessories” (T)  
                    by Mr. Pramote Pattanapongthong  
                    President, Wichien Dynamic Industry Co., Ltd |
| 14.30 – 15.00 hrs. | “Surface Treatment Technology for Automotive Parts” (T)  
                    by Mr. Patipan Juijerm, Dr.-Ing.  
                    Head of the Innovation Center,  
                    Faculty of Engineering,  
                    Kasetsart University |
| 15.00 – 15.20 hrs. | Coffee Break                                                          |
| 15.20 – 16.20 hrs. | “Advanced Forming Technology : Fine Blanking” (T)  
                    by Mr. Ronnarong Namuangrak  
                    Factory Manager,  
                    AA Fine Blanking Co., Ltd. |
| 16.20 – 16.30 hrs. | Conclusion & End of Program                                          |

**Remarks**

(T) Presentation will be conducted in Thai.

(E) Presentation will be conducted in English.

* The organizer reserved the right to adjust program without prior notice
### Automotive Summit 2013 Program

#### Parallel Sessions Theme C

**“Future Automotive Technology”**

Day 2 - Friday 21 June 2013, 08.30-12.00 hrs.

Seminar Room 215, 2nd Floor, BITEC, Bangkok

<table>
<thead>
<tr>
<th>Time</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 – 09.00 hrs.</td>
<td>Registration</td>
</tr>
<tr>
<td>09.00 – 09.30 hrs.</td>
<td>“Future Automotive Technology in China” (E) by Mr. Wu Huan</td>
</tr>
<tr>
<td></td>
<td>President, SAIC Motor-CP Co., Ltd.</td>
</tr>
<tr>
<td>09.30 – 10.00 hrs.</td>
<td>“Advanced Safety System in Automotive” (E) by Mr. Thomas Chambers</td>
</tr>
<tr>
<td></td>
<td>Managing Director, Continental Automotive (Thailand) Co., Ltd.</td>
</tr>
<tr>
<td>10.00 – 10.30 hrs.</td>
<td>“Apply GPS Tracking for Safety and Security in Automotive” (T) by Mr. Saksin Chongolnee</td>
</tr>
<tr>
<td></td>
<td>CEO, CCM Systems Co., Ltd.</td>
</tr>
<tr>
<td>10.30 – 10.50 hrs.</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10.50 – 11.20 hrs.</td>
<td>“Development of Natural Gas Engine for Heavy Duty Truck” (T) by Mr. Chakrit Jailor</td>
</tr>
<tr>
<td></td>
<td>Manager of Research and Development for Truck, Isuzu Technical Center of Asia Co., Ltd.</td>
</tr>
<tr>
<td>11.20 – 11.50 hrs.</td>
<td>“Safety of CNG and LPG for Usage in Automobiles” (T) by Mr. Maesai Prapaswat</td>
</tr>
<tr>
<td></td>
<td>CEO, Versus Thailand Co., Ltd. President, Thai Association of Gas Equipment Installers for Vehicles</td>
</tr>
<tr>
<td>11.50 – 12.00 hrs.</td>
<td>Conclusion &amp; End of Program</td>
</tr>
</tbody>
</table>

**Remarks**

- (T) Presentation will be conducted in Thai.
- (E) Presentation will be conducted in English.
- The organizer reserved the right to adjust program without prior notice.
### Automotive Summit 2013 Program

**Parallel Sessions Theme C**

**“Future Automotive Technology”**

Day 2 - Friday 21 June 2013, 13.00-16.30 hrs.

Seminar Room 215, 2nd Floor, BITEC, Bangkok

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<tr>
<th>Time</th>
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<th>Speaker(s)</th>
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<tbody>
<tr>
<td>13.00 – 13.30 hrs.</td>
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<tr>
<td>13.30 – 14.00 hrs.</td>
<td>“Automotive Australian 2020”(^{(E)}) by Mr. Linsey Siede</td>
<td>Director, Business Excellence Division, Automotive Co-operative Research Centre (AutoCRC), Australia</td>
</tr>
<tr>
<td>14.00 – 14.30 hrs.</td>
<td>“Development of Sustainable Transportation Technology”(^{(E)}) by Mr. Nick Leach</td>
<td>Director, Vehicle Sale Support Asia</td>
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<tr>
<td></td>
<td></td>
<td>By Sale &amp; Service Management, Scania (Hong Kong) Limited</td>
</tr>
<tr>
<td>14.30 – 15.00 hrs.</td>
<td>“Biofuels: The Technologies, Challenges, and Opportunities (US Experiences )”(^{(E)}) by Dr. Candace S. Wheeler</td>
<td>GM Technical Fellow, General Motors R&amp;D Center, USA</td>
</tr>
<tr>
<td>15.00 – 15.20 hrs.</td>
<td>Coffee Break</td>
<td></td>
</tr>
<tr>
<td>15.20 – 15.50 hrs.</td>
<td>“Future Automotive Technology”(^{(E)}) by Dipl. Ing. Helmut Sikinger</td>
<td>AVL List GmbH (Headquarter), Austria</td>
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<tr>
<td>15.50 – 16.20 hrs.</td>
<td>“Electric Vehicle Research and Development” (^{(T)}) by Associate Professor Werachet Khan-ngern, Ph.D.</td>
<td>Department of Electrical Engineering, King Mongkut’s Institute of Technology Ladkrabang</td>
</tr>
<tr>
<td>16.20 – 16.30 hrs.</td>
<td>Conclusion &amp; End of Program</td>
<td></td>
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**Remarks**

- \(^{(T)}\) Presentation will be conducted in Thai.
- \(^{(E)}\) Presentation will be conducted in English.
- The organizer reserved the right to adjust program without prior notice.
Opening Remark

Dr. Wiloon Simachokdee
Permanent Secretary, Ministry of Industry

On behalf of the TAI's chairman of the board and Permanent Secretary Ministry of Industry, it is my honor to be presided on and given opening speech for the event of Automotive Summit 2013, “Moving Towards Global Green Automotive Industry” and thank you President, Japan Automobile Research Institute (JARI) Dr. Toshio Kobayashi for Special presentation today.

At present, people all around the world become aware of environment and pollutions; as a consequence, both Thai and foreign industrial operators have changed and developed their operations’ capacity. They focus on increasing ability and environment friendly technology, convenience, economy, safety, and utilization, worthily Ministry of Industry (MOI) as the government agency has the key mission to define policy and strategy for Thai industry development which support and promote enterprise in order to enhance strength of industrial operators and increase their competitiveness in the world market as well as to explore the opportunity and environment that attract investment and business. Moreover, the mission will cause balanced development with responsibilities to consumer, community and society and generate Thai industry to have more potential and development strongly and sustainably. Besides, this is to prepare and be ready for ASEAN Economic Community (AEC) in year 2015 which is the major factor that strengthens economy and ASEAN’s competitiveness in international market; especially, the opening of free trade area for product and service such as aviation, automotive, electronics, information technology and health.

This Automotive Summit 2013 event is interesting by the topics of “Moving Towards Global Green Automotive Industry”, “ASEAN: Hub of Auto Production to the World”, “Automotive Production Technology” and “Rail System Technology” that the government realize it as the significant requirement for Thai transportation development to speed, modernization and covered network among ASEAN countries by invitation executives from local and international for deliberating and sharing their valuable opinions Thus this symposium is conform to MOI’s intention to further readiness of operators; therefore, they are able to adjust themselves properly and response to new conditions or challenged requirements of economy, industry, new technology, research and development systems with strengthen and competitiveness, efficiency. On behalf of Ministry of Industry, I hope, considerably, that collaboration, determination, dedication and willingness of you, all together, would support the Thai automotive and auto part industry development to be strong and realistic. As a result, there are benefits to all sectors which correspond to the concept of balanced and sustainable development. At this moment, I would like to take this opportunity to open the academic symposium of Automotive Summit 2013, now.
Biography

Dr. Witoon Simachokedee
Permanent Secretary, Ministry of Industry

Education Background:
- Bachelor of Law, Thammasat University
- Bachelor of Engineering in Electrical Engineering, Kasetsart University
- Master of Business Administration (MBA), Thammasat University
- Ph.D. in Science (Security Technology), Suan Sunandha Rajabhat University
- Ph.D. in Political Science (Public and Private Management), Ramkhamhaeng University
- Ph.D. in Engineering (Safety Engineering), Kasetsart University

Working Experiences:
- Director General, Department of Primary Industries and Mines, Ministry of Industry
- Deputy Permanent Secretary of Ministry of Industry
- Inspector General of Ministry of Industry
- Deputy Director General, Department of Industrial Works, Ministry of Industry
Welcome Address

Dr. Patima Jeerapaet
President of Thailand Automotive Institute

On behalf of Thailand Automotive Institute and the organizing committee, I would like to express my gratitude to the Permanent Secretary, Ministry of Industry Dr. Witoon Simachokedee for your honorable attending and presides at Automotive Summit 2013 “Moving towards Global Green Automotive Industry”.

As Thailand Automotive Institute had conducted the Master Plan for automotive industry 2012 - 2016 by reviewing the vision, strategies and action plans to accommodate the rapid growth of global trade and competitiveness together with the trend of the world’s automotive technology development and we have generated the vision of Thailand automotive industry in year 2021 as “Thailand is a global green automotive production base with strong domestic supply chains which create high value added for the country”. It indicates that there is widen-objective in Thailand automotive industry development from automotive manufacturing base of ASEAN to the world market. It can be seen from this vision that Thailand automotive industry development in the future will focus on utilizing benefits from being the world’s automotive manufacturing base by building up value added to Thailand, promoting to use more local products throughout supply chains. In order to achieve these it requires advanced technology development, research and development (R&D), human resource development and upgrading vehicle testing facilities to international standards.

The objective of Automotive Summit 2013 conference under the theme “Moving towards Global Green Automotive Industry” is to share academic knowledge, technical know-how and visions related to the development of automotive technology, R&D and human recourse development by government and private sectors in automotive industry. These are essential to strengthen industrial operators and benefit the economic development for the country along with increasing value added, exports, employment and industrial linkage in manufacturing and various other supporting industries. According to the forecast, Thailand’s car production will reach 3 million units in 2015.
The achievement of this Automotive Summit 2013 would not have been possible without the great support and cooperation from numerous organizations both from the government and private sectors including the Ministry of Industry, Ministry of Education, and Ministry of Transport together with well-known universities; especially, top executives from leading local and international organizations consist of Japan Automobile Research Institute (JARI), European ASEAN Business Centre (EABC), Automotive Co-operative Research Centre (Auto CRC) Australia, AVL SEA & Australia, the Federation of Thai Industries, Thai Automotive Industry Association, Thai Auto-Parts Manufacturers Association and Reed Tradex, I hereby would like to express my sincere gratitude to all parties concerned organizing the symposium.

I hope that Thailand Automotive Institute would provide benefit support and a great partner to promote Thai auto-parts manufacturers and enhance the competitiveness of automotive industry in the global market.

**Biography**

**Dr. Patima Jeerapaet**

President of Thailand Automotive Institute

**Educational Details**

- Doctor of Philosophy in Management and Organization Development (Phd. OD), Assumption University
- Master Degree in Business Administration (MBA) Assumption University
- Bachelor Degree in Business Administration (BBA) Assumption University

**Professional Accomplishments**

**Present**

- President of Thailand Automotive Institute
- Advisor to Committee on Monetary, Finance, Banking and Financial Institutions, the Senate, Kingdom of Thailand

**History**

- Advisor to Minister of the Prime Minister’s Office
- Director of the Office of Office of Small and Medium Enterprises Promotion (OSMEP)
- Managing Director, C.I.T. Property Consultant Co., Ltd. or Colliers International Thailand
Summit Remark

Mr. Chainarong Limpkittisin
Managing Director, Reed Tradex Company Limited

“Unpredictable challenges of the future will not be daunting if we are well prepared. I believe that ‘Automotive Summit’ is the best event for auto-parts makers to become equipped with necessary knowledge, a very rare chance to meet luminaries in the industry and learn from them, see the future through their eyes. Don’t miss!”

Chinarong Limpkittisin
Managing Director
Reed Tradex Co., Ltd.
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Special Presentation

Moving Towards Global Green Automotive Industry: Why and How?

Dr. Toshio Kobayashi
President, Japan Automobile Research Institute (JARI)
E-mail: prd@jari.or.jp

Abstracts

In automotive industry, it is essential to focus on global green such as low CO₂ emission, clean air and road safety. In this speech, firstly, recent situation regarding global green is described. Then the various approaches to achieve global green is surveyed. Finally, the challenges for the effective approaches are mentioned and the importance of the automotive research activities is pointed out.

Biography

Name: Dr. Toshio Kobayashi
Year of Birth: 1941
Education:
M.Sc. (Mechanical Engineering), University of Tokyo, March 1967
Ph.D. (Mechanical Engineering), University of Tokyo, March 1970
Experiences:
Associate Professor, University of Tokyo, April 1970.
Professor, University of Tokyo, February 1986
Advisory Research Fellow, Institute of Industrial Science, University of Tokyo, April 2003
President, Japan Automobile Research Institute, May 2003
Awards: Leonardo da Vinci Award, 11th International Symposium Flow Visualization, Aug. 9, 2004, Notre Dame, USA
Short Description
Fellow, Japan Federation of Engineering Societies, 2009
Member, Science Council of Japan, 2000-2008
President, Japan Society of Mechanical Engineers, 2001-2002
Vice President, FISITA, 2000-2002
Organized by:
Panel Discussion
ASEAN in the Eyes of Global Green Automotive Manufacturers
as Strategic Hub of Auto Production to the World

Synopsis
Automotive industry is one of the main industries of Thailand which generates economic value for the country. It accounts for 10% of gross domestic product originating from manufacturing and a source of employment for over 500,000 direct jobs of skill labor and above in 2012, not including value generated from related industries such as upstream industry, service industries such as financial, insurance and after sales service. Furthermore, Thailand is a leading regional and global automotive manufacturer, ranks the first among ASEAN countries and top 10 in the global automotive industry in 2012 and also a major regional production base for motorcycle and automotive parts.

However, future challenges must be taken into careful consideration in formulating development strategies for sustainable growth of the industry especially the global trends focus on environment and safety. Thence, Thailand automotive industry is required to develop technology and competency to meet these requirements. The goal for future product development is to strive for a green and safety vehicles in compliance with the international standards. Moreover, the dynamic of automotive business on both supply and demand is in motion. The global economic center is shifting from West to East. ASEAN will play an increasingly important role as an increasingly important market and a major global production base changing the face of the competition e.g. former trade partners turned to competitors, production base relocation and competitive advantage development through business collaboration. To create a substantial impact, we must be systematically integrated with collaboration from all related parties in both government and private sectors. This panel will present and discuss about "ASEAN as Strategic Hub of Automotive Production to the World" from representative of global automotive manufacturers in Thailand.

Panelists:

**Mr. Peter Wolf**
Automotive Chairman, European ASEAN Business Centre (EABC)

**Mrs. Piengjai Keawsuwan**
President, Thai Automotive Industry Association (TAIA) & President, ASEAN Automotive Federation (AAF)
Vice President-Government Relations, Nissan Motor (Thailand) Co.,Ltd.

**Mr. Wu Huan**
President, SAIC Motor-CP Co.,Ltd.

**Moderator:**
**Dr. Yossapong Laoonual**
Expert, Thailand Automotive Institute
ASEAN in the Eyes of Global Green Automotive Manufacturers

as Strategic Hub of Auto Production to the World

Panelists:

Mr. Peter Wolf
Automotive Chairman
European ASEAN Business Centre (EABC)
E-mail: peter.wa.wolf@bmw.co.th

Peter Wolf, born in 1957, graduated as a Master of Engineering at Technical University of Munich and joined BMW AG in 1985. Starting as a systems analyst in the CAD/CAM department and taking over the project management for the implementation of a CAD system, he owned several managerial positions in the production planning for the body in white and press shop. After being in charge for the press shop operation in plant Dingolfing and being the Managing Director of BMW Fahrzeugtechnik Eisenach GmbH, a manufacturer of press dies, he became the Project Manager to optimize the planning processes in the central planning division. Since July 2010 he is in charge of BMW Manufacturing (Thailand) Co. Ltd, the local BMW owned and operated car manufacturing plant, as the Managing Director.

Mrs. Piengjai Keawsuwan
President, Thai Automotive Industry Association (TAIA)
President, ASEAN Automotive Federation (AAF)
Vice President-Government Relations, Nissan Motor (Thailand) Co., Ltd.
E-mail: piengjai@nissan.co.th

Mrs. Piengjai Keawsuwan spent all her work life in the automotive industry. She is the first woman that has been elected ASEAN Automotive Federation (AAF) President in 29 years. She is also chairwoman of Thailand Automotive Industry Association and Federation of Thai Industries’ Automotive Industry Club and the chairperson of Automotive Club of the Federation of Thai Industries.
Mr. Wu Huan
President, SAIC Motor-CP Co.,Ltd.
E-mail: wuhuan@saicmotho.co.th

Mr. Huan Wu, as president of SAIC Motor – CP Co., Ltd since February this year, is responsible to form and lead team for establishing the new automotive joint venture between SAIC Motor Corporation Limited and CP Group in Thailand. With 22 years working in SAIC Motor and its’ joint venture, he had experienced the dramatic development of China automotive industry, including 6 years in SAIC Tech Center, 4 years in Pan Asia Technical Automotive Center (PATAC) and 11 years in Shanghai General Motor (SGM) while with his career path from an engineer to the executive manager.

Moderator:

Dr. Yossapong Laoonual
Expert, Thailand automotive institute
E-mail: yossapong@thaiauto.or.th

Dr. Yossapong Laoonual studied his first degree in Mechanical Engineering at Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand. Between 1999 and 2006 he received Thai Government Scholarship to study in the UK where he continued his master’s degree in Mechanical Engineering at the University of Manchester Institute of Science and Technology (UMIST), now University of Manchester, UK, followed by Imperial College London to gain his Ph.D. in Mechanical Engineering.

He is currently an assistant professor and assistant head of department at the department of Mechanical Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi (KMITT). He regularly demonstrates and lectures on a number of automotive related subjects, for example Combustion Engines Technology, Hybrid and Electric Vehicle Technology and Sustainable Transport Technology. He has produced and contributed to a number of research papers in connection with the Powertrain, Fuel and Energy technology. In conjunction, he has held the position as an expert at Thailand Automotive Institute since 2013.
Parallel Sessions
Theme A1
"Human Resource Development in Automotive Industry"

Role and Direction of Vocational Education on Automotive Human Resources Development
by Mr. Jiang Wongsawassuriya
Advisor of Policy and Planning,
Vocational Education Commission, Ministry of Education

Labor Development Strategy in the Automotive Industry
by Mr. Thavorn Chalassathien
Acting Secretary General, The Federation of Thai Industries (FTI)
Director, The Human Capacity Building Institute

ASEAN Opportunities on Workforce Development in Automotive Industry
by Mrs. Achana Limpaithoon
President, Thai Auto-parts Manufacturers Association

Role of Human Resource Development in Automotive industry
by Mrs. Chureerut Suwanvithaya
Vice President, Thailand Automotive Institute
บทคัดย่อ
สำนักงานคณะกรรมการการอาชีวศึกษากำหนดวิสัยทัศน์ "ผลิตและพัฒนากำลังคนอาชีวศึกษาอย่างมีคุณภาพ ได้มาตรฐาน ตรงตามความต้องการของตลาดแรงงานสังคมระดับประเทศและภูมิภาค" และภารกิจจัดและส่งเสริมการอาชีวศึกษาและการฝึกอบรมวิชาชีพ โดยคำนึงถึงคุณภาพและความเป็นเลิศทางวิชาชีพที่มุ่งผลิตและพัฒนากำลังคนในสาขาที่เป็นความต้องการของตลาดแรงงาน สาขาที่เป็นนโยบายรัฐบาล และการเพิ่มขีดความสามารถในการแข่งขันของประเทศ อีก броคิมี การสร้างยุทธศาสตร์รุ่นใหม่ คว้าไทยสู่กว่าโลก พลังงานทดแทน โลจิสติกส์/รถไฟความเร็วสูง อัญมณี ยานยนต์ ไฟฟ้า อิเล็กทรอนิกส์ ท่องเที่ยวไทย วิทยุสื่อสาร วีดีโอ โดยมีนโยบายเพิ่มสัดส่วนผู้เรียนในสาขาอาชีวศึกษาต่อสายสามัญเป็น 50:50 เพื่อดูดสัดส่วนความต้องการของภาคส่วนต่างๆ ดังนี้

1) ตอบสนองความต้องการกำลังคนในระดับจังหวัด (Area Based) ตามยุทธศาสตร์กลุ่มจังหวัด (Cluster)
2) ส่งเสริมการเป็นผู้ประกอบการท้องถิ่น
3) สนับสนุนกำลังคนในพื้นที่อุตสาหกรรมและการส่งเสริมการลงทุน (Industrial Strategy)
4) เพิ่มขีดความสามารถในการแข่งขันของประเทศ (Agenda Base) ตามนโยบายรัฐบาล และยุทธศาสตร์ประเทศ (Country Strategy)
5) เตรียมความพร้อมเข้าสู่ประชาคมอาเซียน (ASEAN Economic Community: AEC)

สำนักงานคณะกรรมการการอาชีวศึกษาได้จัดหลักสูตรการเรียนการสอนประเภทวิชาอุตสาหกรรม สาขาวิชาเครื่องกล ทั้งระดับมัธยม (ปวช.), ระดับเทคนิค (ปวส.) และระดับปริญญาตรีสายเทคโนโลยีหรือสายปฏิบัติการ ในสาขาวิชาวิศวกรรม วิศวกรรมเครื่องกล วิศวกรรมอุตสาหกรรม วิศวกรรมยานยนต์ การทหารและยุทธศาสตร์ และเทคโนโลยีอุตสาหกรรม สาขาวิชาวิศวกรรมยานยนต์ โดยมีนักเรียนนักศึกษาในสาขาวิชาวิศวกรรมยานยนต์ทั้งระบบปกติ และระบบวิภาคีซึ่งเป็นความร่วมมือในการจัดการเรียนการสอนระหว่างสถานศึกษาและสถานประกอบการ จำนวนทั้งสิ้น 104,758 คน นอกจากนี้ยังมีความร่วมมือกับอุตสาหกรรมยานยนต์ในการพัฒนาขีดความสามารถของบุคลากรครู ช่างและนักเรียนนักศึกษา ให้มีสมรรถนะวิชาชีพตรงกับความต้องการของภาคอุตสาหกรรมยานยนต์ของประเทศ
ประวัติผู้บรรยาย

ชื่อ-นามสกุล คุณเจี่ยง วงศ์สวัสดิ์สุริยะ

ประวัติการศึกษา
- ครุศาสตร์อุตสาหกรรมมหาบัณฑิต (ค.อ.ม.) บริหารอาชีวะและเทคโนโลยี
- สถาบันเทคโนโลยีพระจอมเกล้าพระนครเหนือ
- ครุศาสตร์อุตสาหกรรมบัณฑิต (ค.อ.บ.) เทคนิคยานยนต์ วิทยาลัยเทคนิคสุโขทัย
- ประกาศนียบัตรวิชาชีพชั้นสูง (ปวส.) ช่างยนต์ วิทยาลัยเทคนิคสุโขทัย
- ประกาศนียบัตรวิชาชีพ (ปวช.) ช่างยนต์ วิทยาลัยเทคนิคสุโขทัย

ประวัติการทำงาน
- ผู้อำนวยการระดับคศ. 3 วิทยาลัยเทคนิคสุโขทัย
- ผู้อำนวยการสำนักวิจัยและพัฒนาการอาชีวศึกษา สำนักงานคณะกรรมการการอาชีวศึกษา
- ผู้อำนวยการสำนักวิจัยและพัฒนาการอาชีวศึกษา รักษาการแทน
- ผู้อำนวยการสำนักติดตามและประเมินผลการอาชีวศึกษา สำนักงานคณะกรรมการการอาชีวศึกษา
- ผู้อำนวยการสำนักนโยบายและแผนการอาชีวศึกษา
- สำนักงานคณะกรรมการการอาชีวศึกษา

ปัจจุบัน
- ด้านการจัดทำ ผู้อำนวยการสำนักนโยบายและแผนการอาชีวศึกษา รักษาการในตำแหน่งที่ปรึกษาด้านนโยบายและแผนสำนักงานคณะกรรมการการอาชีวศึกษา
Labor Development Strategy in the Automotive Industry

Mr. Thavorn Chalassathien
Acting Secretary General, The Federation of Thai Industries (FTI)
Director, The Human Capacity Building Institute
E-mail: thavorn.co.th@denso.co.th

Abstracts
Automotive & Automotive Parts Industry is one of major industry in Thailand. Auto sector is 1 out of 9 important sectors which goods can be moved freely under AEC. At present Thailand has already reached an annual production output 2 million vehicles. It is also forecasted that Thailand will have total production output 3.5-4 million vehicles by 2020. This is implying that Thailand will become important automobile production base in the world. As a result of rapid growth of car production in Thailand, it is necessary to determine strategy for automotive industry in order to improve its productivity. Hence strategy and long term plan for skilled-labor development is needed inevitably. Technology, automation and good management will be a key success in reducing labor demand in the future. Ministry of Labor, Department of Skilled Labor Development, realizes the importance of skilled labor development because skilled labor is human resources which drive Thailand’s economy and development. It is estimated that more than 700,000 people are connected in automotive industry and generate tremendous income for the country. Ministry of Labor, Department of Skilled Labor Development in cooperation with The Federation of Thai Industries have made Strategy Framework on Skilled-labor Development for Automotive & Automotive Parts Industry aiming to enhance competitiveness of skilled labor to be met with private sector need and be able to compete with other country.

Strategy of Skilled-labor Development for Automotive & Automotive Parts Industry is envisaged for 10 years plan. The strategy will focus on sustainable development and maintain competitiveness when neutral person can move freely under AEC. The strategic plans will not only enhancing productivity but also increasing quality and competitiveness. This will also sustain the development of Thailand in the long run.

Biography

Mr. Thavorn Chalassathien
- Acting Secretary General, The Federation of Thai Industries (FTI)
- Director, The Human Capacity Building Institute
- Vice President, Thai Auto-parts Manufacturers Association
ASEAN Opportunities on Workforce Development in Automotive Industry

Mrs. Achana Limpaitoon
President, Thai Auto-parts Manufacturers Association (TAPMA)
E-mail: achana@limpaitoon.com

Abstracts

With regards to the Automotive Sector in ASEAN countries, Thailand and other 4 countries: Indonesia, Malaysia, Philippines and Vietnam have played important roles in car and parts manufacturers for quite some years. Thailand alone experienced in this automotive sectors for 50 years and in the year 2012, Thailand produced more than half of the car production in this region which was 2.45 million cars out of the 4.2 million cars produced by these 5 ASEAN countries. Thailand also export car parts in the value of over 10,000 million USD. While Indonesia produced more in motorcycles with the numbers of 7.1 million units last year. As this industry is growing very fast and contribute significantly to the country GDP, the manpower in all levels are needed; especially when AEC is scheduled to come into effect from 2015 onwards. All the ASEAN countries should fully co-operate to work together to make use of the ASEAN MRAs and for the technicians in the automotive sector, all should apply the same framework of labor skill standard. But for higher levels, the framework of National Professional Qualification system should be worked together for the common benefit of everyone in order that the whole educational system should be upgraded and be tailored according to the need of industry. For Thailand, even we have the very skilled workforce, Thailand is facing labor shortage, both on the operational level and technical level. Workforce may come from other countries where they have cheaper and more labours while other countries may need Thai technical experts. So, Thailand should be self prepared not to lose competitiveness whereas cooperation between the private and government should be strengthened. Thus, Thailand can help develop the overall labor and technicians educational system of the whole ASEAN community in the very near future.

Biography

Mrs. Achana Limpaitoon is currently the President of Thailand Auto Parts Manufacturers Association (TAPMA), as well as the Vice President of other organizations; significant ones include Auto Parts Club and Thai Automotive Industry Association. Since 2005, she has been the Chairman of the Organizing Committee that organizes the annual Thailand Auto Parts and Accessories Fair (TAPA), in conjunction with the Department of International Trade Promotion, to promote trade and investment among the ASEAN countries. Most recently, TAPA 2012 has been very successful. Mrs. Achana Limpaitoon is also the Managing Director of Srithai Auto Seats Industry, which specializes in the manufacturing of AirLumba® supplied to automakers, namely Toyota and Honda. Having dedicated her time and efforts to the automotive industry, she was awarded Outstanding Government Service Award by the Ministry of Commerce in 2010.
Role of Human Resource Development in Automotive Industry

Mrs. Chureerut Suwanvithaya
Vice President, Thailand Automotive Institute
E-mail: chureerut@thaiauto.or.th

Abstracts

The human resource development related to the automotive and parts manufacturers is a key factor and to improve its system to meet quality standards in global markets - the capacity of engineer development in research and development, the ability enhancement of both skilled and unskilled labors which is the major workforce for production system in order to have knowledge, skills in higher performance and to have sufficient volume to expand capacity and keep pace with the change of automotive technology in current and future to impel Thailand automotive industry to be recognized and raise the ability to global competition.

Biography

Mrs. Chureerut Suwanvithaya

Education:
- Master degree in Industrial Engineering and Management (M.Eng. IE&M) Asian Institute of Technology (AIT), 1980
- Bachelor degree in Electrical Engineering, second class honor (B.Eng. electrical) Chulalongkorn University, 1976

Experiences:
- Vice President, Thailand Automotive Institute, her role is to manage and supervise 4 departments which are Testing, Audit & Assessment, Automotive & Manufacturing Technology, Entrepreneur & Human Resource Development Section
- Assistant Executive Director, The Federation of Thai Industry (FTI)
- Managing Director, Information Co., Ltd.
- Manager of Information System Management Dept., Italthai Co., Ltd.
- Division Chief of Power Plant Maintenance Planning, Electricity Generating Authority of Thailand (EGAT)

She has experiences over 20 years in human resource development such as Engineer in Training Service Business, Technology Transfer and Capability Build-up Project, Automotive Human Resource Development Project (AHRDP), etc.
Parallel Sessions Theme A2
“Human Resource Development in Rail Industry”

Human Resource Development in Rail Industry
by Mr. Nakorn Chantasorn
Advisory to President, National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology

Rail System’s Education
by Associate Professor Thanya Kiatiwat, Ph.D.
Dean, Faculty of Engineering, Kasetsart University

Human Resource Development of State Railway of Thailand
by Mr. Boonsom Wiengchai
Chief of Center Attached to the Governor, State Railway of Thailand

Overview of Rail Engineering in Thailand
by Assistant Professor Wichai Siwakosit, Ph.D.
Deputy director of the International Undergraduate Program, Faculty of Engineering, Kasetsart University

Overview of Rail Engineering in Europe
by Professor John Roberts, Ph.D.
Visiting Professor of Mechanical Engineering and Honorary Chairman, Rail Engineering Center, Kasetsart University
Human Resource Development in Rail Industry

Mr. Nakorn Chantasorn
Advisor to President
National Science and Technology Development Agency (NSTDA)
Ministry of Science and Technology
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Abstracts

Industrial buyers are few rail systems and is available as a product in general. Moreover, most buyers in the past are the government agencies, which are required by law. Procurement regulations strictly. These facts are barrier of the development of the rail industry and continuously for a long time. It can be said that the country is lagging behind in this field, although the railways in more than 100 years ago. When the government has a policy to develop the country’s rail transport system quickly. Technological and industrial backwardness, it may cause a lack of sustainability. Must import many goods from abroad. Lack of opportunity to create jobs in the country. And the opportunity to use the large investment projects as a mechanism to enhance the capabilities of the technology and industry. Many countries face problems similar to this such as The Republic of Korea and People’s Republic of China. It was found that despite the high level of industry and foundations. But it is not enough to support the rapid development of modern though you act quickly to research and develop one. In such a way to learn the shortcuts of those who have promised to transfer technology to the local train construction coupled with (Project-based Technology Transfer) with the aim to create and produce their own parts in the future. Technology transfer from manufacturers as mentioned in the contract of Thailand. But is limited in the narrow band between the parties. Lack of depth effect to broad sectors of the manufacturing industry. Transfer of technology from the manufacturer. Be widely affected if the recipient is not a specific technology in national parties. And since the government is the largest buyer. The initiative of the government. Including a mechanism to manage the success of the goals is an important factor as well.

Biography

Mr. Nakorn Chantasorn
Advisor to President, National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology

Education:
- Master of Science (Management Science), Cranfield Institute of Technology, United Kingdom

Experiences:
- Deputy General Manager, State Railway Of Thailand (SRT)
- Acting General Manager, State Railway Of Thailand (SRT)
- Advisor to President, NSTDA
Rail System’s Education

Associate Professor Thanya Kiattiwat, Ph.D.
Dean of Faculty of Engineering Kasetsart University
Chairman of KURAIL: Kasetsart University Rail Engineering Center
E-mail: fengtyk@ku.ac.th

Abstracts

Rail Engineering Education at Kasetsart University will be presented. The total picture of Rail Engineering Education development will be covered. Courses and activities of KURAIL will be presented.

Biography

Dr. Thanya Kiattiwat has been active in the field of Mechanical and Agricultural Engineering for more than 20 years. He is currently the Dean of the Faculty of Engineering at Kasetsart University in Bangkok, Thailand. He is a founding member of KURAIL: Kasetsart University Rail Engineering Center. He earned his Ph.D. from Kansas State University in 1991.
Abstracts

Rail system has played a greater role in national development up to present. As an economical and safe mode of transport, it facilitates people to access the system and utilize its passenger and freight service and every country has continuously contributed the importance of its role. The Government of Thailand has now set a concrete policy on development of rail system i.e. financial support on track rehabilitation, development of electrified rail system and high speed rail project. The State Railway of Thailand as a responsible entity, needs to develop its officers with additional knowledge, competency and skills in order to support future assigned missions and change.

Trend of SRT human resource development has been provided into two categories. First, the program includes competency based training including in-house and public, e-training, distance training, self-learning, on the job training, coaching, and provision of scholarships, observation trip and site visit. Second, to prepare SRT officers to support new railway project sand provide guideline for an establishment of ASEAN Rail System Development Institute, ARSDI, SRT in 2009 signed a Memorandum of Understanding with Minister of Transports and King Mongkut’s University of Technology Thonburi. Then in 2010, SRT signed other two MOUs with Suan Sunandha Rajabhat University and King Mongkut’s University of Technology Ladkrabang. The MOUs include Bachelor Degree programs (Technology) in fields of mechanical, electrical, construction, civil, traffic, management as well as Bachelor Degree in logistic, for SRT officers. SRT grants 337 scholarships for its officers under the MOU’s program. In addition, SRT in 2013 reopens its Railway Engineering School. 180 in 2013 and 110 in 2014 qualified persons with vocational certificates will be trained and developed for one year and a half in fields of traffic, mechanical, electrical and electronics, civil and signaling and telecommunications. Moreover, the National Science Technology and Innovation Policy Office in collaboration with fourteen (14) sectors also signed a Memorandum of Understanding for the development of human resource and expertise on national rail system.

Biography

Mr. Boomson Wiengchai

Education
- Graduate Diploma in Training Management Program, Mahidol University
- Bachelor of Business Administration (Accounting), Ramkhamhaeng University
- Bachelor of Business Administration (Public Relations), Ramkhamhaeng University

Experience
- Committee, Human Resource Management and Development Committee, SRT
- Secretary and Project coordinator, Railway Training Center Improvement Project
  under the assistance cooperation by Japan International Cooperation Agency (JICA), Japan (May 1992 – May 1997)
Overview of Rail Engineering in Thailand
Assistant Professor Wichai Siwakosit, Ph.D.
Coordinator, KURAIL: Kasetsart University Rail Engineering Center
Faculty of Engineering, Kasetsart University
E-mail: fengwcs@ku.ac.th

Abstracts
Overview of Rail Engineering in Thailand will be covered for understanding of general audiences. Topics to be presented include Rolling Stock, Signalling and Telecommunication, Permanent Way and Track works, and Rail Infrastructure.

Biography
Dr. Wichai Siwakosit has been with the Mechanical Engineering at Kasetsart University for 18 years. He is currently coordinating people in Thai Rail Industry for the purpose of Rail Engineering Education, Professional Services, and Research. He is a founding member of KURAIL of Kasetsart University in Bangkok, Thailand. He earned his Ph.D. from the University of California at Davis in 2001.
Overview of Rail Engineering in Europe

Professor John Roberts, Ph.D
Visiting Professor of Mechanical Engineering and Honorary Chairman,
KURAIL: Kasetsart University Rail Engineering Center
E-mail: fengjor@ku.ac.th

Abstracts

The basic information of current European Rail Industry and historical development of European Rail Industry will be covered. Trends of new innovations in Rail Industry will be presented.

Biography

Professor John Roberts is currently an honorary chairman of KU Rail: Kasetsart University Rail Engineering Center and a Visiting Professor of Mechanical Engineering at Kasetsart University. He has been active in European Rail Industry for more than 20 years, particularly with Bombardier. He was an honorary chairman of New Rail: Newcastle Centre for Railway Research at University of Newcastle Upon Tyne in UK. His research involves Rail Safety and Crashworthiness analysis. He earned his Ph.D. from Staffordshire University in 1984.
Parallel Sessions Theme B
“Human Resource Development in Rail Industry”

**Technology Trend in Automotive Part’s Production**
by **Mr. Taira Terutaka**
General Manager, Marketing Engineering and Research Development,
Thai Summit Group

**Metal Forming Technology in Automotive Industry**
by **Associate Professor Dilok Sriprapai**
Head, Department of Tools and Materials Engineering,
Faculty of Engineering, King Mongkut’s University of Technology Thonburi

**Materials and Corrosion in Exhaust Gas Pipe**
by **Associate Professor Gobboon Lothongkum, Dr.-Ing.**
Department of Metallurgical Engineering,
Faculty of Engineering, Chulalongkorn University

**High Strength Steel for Automotive Parts**
by **Assistant Professor Vitoon Uthaisangsuk, Dr.-Ing.**
Department of Mechanical Engineering,
Faculty of Engineering, King Mongkut’s University of Technology Thonburi

**Zero Defect Injection Molding with Cavity Pressure Measuring Systems**
by **Dr.-Ing Oliver Schnerr**
Head of Sales & Head of Business Field Plastics,
Kistler Instrument (Thailand) Co., Ltd.

**Materials and Technology in Automotive Accessories**
by **Mr. Pramote Pattanapongthong**
President,
Wichien Dynamic Industry Co., Ltd

**Surface Treatment Technology for Automotive Parts**
by **Dr.-Ing. Patipan Juijerm**
Head of the Innovation Center,
Faculty Engineering, Kasetsart University

**Advanced Forming Technology: Fine Blanking**
by **Mr. Ronnarong Namuangrak**
Factory Manager,
AA Fine Blanking Co., Ltd.
Technology Trend in Automotive Part’s Production

Mr. Taira Terutaka
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Abstracts

These days a lot of innovative solution is developed and realized in Automotive Parts Industry. The technology is considerably influenced by social demand always. When social demand is considered, first of all we find environmental concerns represented by green House Effect and Carbon Dioxide. And natural resource shortage is another concern. To overcome these social demand Automotive Parts Industry works hard to develop innovative technology, which results in contribution to the society in the end. Key Index is Light Weight. To realize Light Weight parts and vehicles Thai Summit group researches new technology like Hot forming, Laser welding, High Strength Steel pressed by Servo Machines & etc. These mentioned approach is introduced today, focusing on social demand.

Biography

Mr. Taira Terutaka
Hired by Thai Summit Group (Steel and Plastic components) from September 1st, 2011. Taking responsibility of Marketing Engineering and Research Development as General Manager. Collaborating with Automotive manufactures proposing new technology & design, utilizing advanced testing and Computer simulation.
บทคัดย่อ

นับแต่อดีตเป็นต้นมาเทคโนโลยีการขึ้นรูปโลหะถูกนับว่าเป็นกรรมวิธีที่ใช้ในการสร้างสรรค์รูปทรงที่สำคัญของโลกมากมาย ทำให้เกิดการปฏิวัติอุตสาหกรรมโดยเฉพาะกับอุตสาหกรรมยานยนต์ ทั้งนี้เนื่องจากยานยนต์มาตรฐานทั่วไปมีองค์ประกอบของชิ้นส่วนโลหะกว่า 70% ของน้ำหนักของตัวรถ ซึ่งชิ้นส่วนเหล่านี้จะต้องผ่านการขึ้นรูปด้วยวิธีใดวิธีหนึ่ง มาแล้วก็ยังต้องมีการขึ้นรูปโลหะอาจแบ่งออกได้เป็นสองกลุ่ม ได้แก่ การขึ้นรูปเย็น การขึ้นรูปร้อน และการขึ้นรูปเป็นรูปแบบหนึ่ง ๆ ที่อยู่ระหว่างกัน การขึ้นรูปโลหะแบ่งออกได้เป็นสองระดับ ได้แก่ การขึ้นรูปเย็น การขึ้นรูปร้อน และการขึ้นรูปเป็นรูปแบบหนึ่ง ๆ ที่อยู่ระหว่างกัน

เทคโนโลยีการขึ้นรูปโลหะจึงเป็นเทคโนโลยีที่คู่กับอุตสาหกรรมผลิตชิ้นส่วนยานยนต์ โดยตรง และในขณะเดียวกันเทคโนโลยีการขึ้นรูปโลหะแบบใหม่ ๆ ก็ถูกพัฒนาขึ้นมาเพื่อตอบสนองกับวัสดุใหม่และรูปทรงต่าง ๆ ของตัวรถที่ขับขี่มากขึ้น ตลอดเวลาอย่างไม่หยุดยั้ง การเรียนรู้และการเพิ่มเติม ตลอดจนความสามารถในการใช้งานจะเป็นหัวใจสำคัญในการผลิตชิ้นส่วน ยานยนต์ของอนาคตที่ต้องตอบสนองต่อกำลังการผลิตของตลาดอย่างทันท่วงที ถึงแม้ว่าจะมีวัสดุใหม่เพิ่มเติมหลายประเภทก็ตาม แต่อุตสาหกรรมการผลิตชิ้นส่วนของยานยนต์จำเป็นต้องให้ความสนใจที่จะใช้โลหะหล่อและโลหะหล่อฉีดอย่างมิตรภาพโดยสิ้นเชิง การขึ้นรูปโลหะจึงเป็นกระบวนการที่มีความหมายสำคัญและจำเป็นต้องใช้ทั้งในทางวิทยาศาสตร์และวิศวกรรมศาสตร์

ประวัติผู้บรรยาย

รศ.ดิลก ศรีประไพ รองศาสตราจารย์หัวหน้าภาควิชา หัวหน้าศูนย์เชี่ยวชาญเฉพาะทาง Center of Excellent of Metal Forming and Materials Design

งานสอนและงานวิจัย

1) Metal forming mechanics (Sheet Metal Forming, Extrusion, Forging, Wire Drawing, Cutting Tool Design).
2) Metal machining and machine tool design.
3) Precision engineering.
Materials and Corrosion in Exhaust Gas Pipe

Associate Professor Gobboon Lothongkum, Dr.-Ing.
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Faculty of Engineering, Chulalongkorn University
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Abstracts

Exhaust gas consists of hydrocarbon, nitrogen oxide (NOx), carbon monoxide, hydrogen, carbon dioxide, excess oxygen, water vapor, nitrogen and carbon. Automotive exhaust gas temperature decreases from about 1,000°C at the manifold to be approximately 100-200°C at the tail end pipe. To fabricate exhaust gas pipe, the materials must be deformed, bended and welded. During use, it is at high temperature, in the exhaust gas atmosphere containing water vapor and under vibration load. The materials used must perform many good properties such as deformability, bending, weld ability, and high temperature oxidation resistance as well as corrosion resistance especially intergranular corrosion resistance of weldment. Stainless steel is one of the chosen materials for exhaust gas pipe because those properties of stainless steels are good enough. This article reviews the development of stainless steel for exhaust gas pipe in the view point of intergranular corrosion resistance of weldment due to the chromium carbide precipitation at the grain boundary of weldment during 500-900°C. This results in chromium depleted zone at the grain boundary. Consequently, the intergranular corrosion resistance of weldment decreases. In addition, the intergranular corrosion can initiate the fatigue corrosion or corrosion under vibration load of weldment.

Biography

Dr. Gobboon Lothongkum, is an associate professor and a member of the Innovative Metals Research Unit, Department of Metallurgical Engineering, Faculty of Engineering, Chulalongkorn University. He received Dr.-Ing. Degree from University of the Federal Armed Force Hamburg, Germany in 1994 and the International Welding Engineer Certificate of the International Institute of Welding in 2006 from SLV Munich. He joined the research on AISI 409LTi stainless steel with the Kawasaki Steel Corporation (Now is JFE Steel Corporation) in 1998. His articles in the international journals listed in ISI data base include corrosion of metals and alloys, welding of metals, stainless steels and high temperature materials.

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High Strength Steel for Automotive Parts

Assistant Professor Vitoon Uthaisangsuk, Dr.-Ing.
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Abstracts

In the automotive industry, demand on the Advanced High Strength Steels (AHSS) has continuously increased due to the aims regarding weight reduction, improved passive safety features, energy saving considerations and environmental impact. The European program ULSAB-AVC (Ultra Light Steel Auto Body-Advanced Vehicle Technology) reported that in new generation vehicles AHSS grades represent about 82% of the body structure mass, of which around 74% are DP (Dual Phase) grades, 4% are TRIP (Transformation Induced Plasticity) grade and the remaining 4% are the CP(Complex) and martensite steel grade. Such multiphase steels show superior combination of high strength, crash energy management, excellent formability and dent resistance. These advantageous properties in comparison to conventional steels are not only resulted from solid solution hardening, grain refinement and precipitation hardening, but also due to the coexistence of softer and harder phases and different grain sizes. Conventional HSS is formed by adding certain alloys, whereas AHSS is formed by controlling the cooling rate. Adequate mechanical properties of DP steel are depending on fraction and distribution of martensite in the ferritic matrix. The plasticity enhancement of TRIP steel concerning transformation of metastable austenite to martensite during deformation is a great technological challenge. In modern vehicles, the AHSSs were principally used for example as pillars, front-side members and floor side reinforcement.

Biography

Dr. Vitoon Uthaisangsuk is an assistant professor and course director of postgraduate studies at the Department of Mechanical Engineering, King Mongkut's University of Technology Thonburi. He was a Thai government scholarship holder. He graduated from RWTH Aachen University, Germany with a diploma and PhD in Mechanical and Metallurgical Engineering. His main research interests are advanced high strength steels, mechanical metallurgy, fracture and damage mechanics as well as Finite Element analysis. His current research works include investigation of manufacturing, mechanical and forming behaviour of high strength steel sheets for automotive parts.
Zero Defect Injection Molding with Cavity Pressure Measuring Systems

Dr.-Ing. Oliver Schnerr
Head of Sales & Head of Strategic Business Field Plastics
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Abstracts

The cavity pressure provides an end to end monitoring of the conditions during the production of injection molded part from injection, compression and holding pressure right through to the cooling phase. It is the most informative process parameter as it provides an insight into the mold cavity independent of machine settings and other process parameters. High performance cavity pressure based systems monitor the quality of molded parts and separate defects, optimize injection molding processes and balance hot runner systems, increase output and cut costs. These systems are reliable tools for ensuring 100% quality in injection molding with zero defects. The cavity pressure is the most informative process parameter. It is well known that only the mold cavity pressure profile correlates with all other quality related part properties such as weight, morphology, fidelity of reproduction, flashes, sink marks, voids, shrinkage and warpage. Therefore, only concepts that are based on cavity pressure are suitable for ensuring highly constant processes and 100 % quality for large-scale production processes. State of the art systems display these concepts in a very compact form. They provide a closed-loop control that includes cavity pressure measuring with piezoelectric sensors, smart electronic equipment and operator friendly software.

Biography

After his studies at RWTH Aachen University from 1995 to 2000, Oliver Schnerr Dr.-Ing., born 1967, headed the work group on "Quality Assurance and Process Control in Injection Molding" at the Institute of Plastics Processing (IKV). Having obtained his doctorate on the subject of "Automation of Online Quality Control in Injection Molding", in 2000 he moved to Kistler Instrumented AG, Winterthur, Switzerland, taking over the position of Automation Software Development Manager. From 2001 onwards he was in charge of the Product Management for Sensors and Monitoring Systems for Plastics Processing. From 2004, in addition to Product Management he was also responsible for worldwide Application Support in the newly created Business Unit Plastics. From 2009 to 2011 Dr. Schnerr was Head of the Business Unit Plastics. Since 1.1.2012 he is managing the Strategic Business Field (SBF) Plastics of the newly created Industrial Process Control Division, in which all of Kistler’s industrial measurement and joining activities have been amalgamated. As a member of the management team of the division, he is also managing its Sales Department.
บทคัดย่อ
บริษัท วิเชียรไดนามิค อินดัสตรี จำกัดเป็นผู้บุกเบิกในการผลิตชิ้นส่วนยานยนต์ กลุ่มสินค้าประดับยนต์หลายชนิด เพื่อใช้ในประเทศและส่งออกสู่ตลาดโลก จนได้รับความเชื่อมั่น โดยมีประเทศคู่ค้ามากกว่า 65 ประเทศ นอกจากนี้ยังเป็นผู้รับผิดชอบการออกแบบกลุ่มสินค้าประดับยนต์ ซึ่งส่วนต่างก็แตกต่างหลากหลาย เช่น Mirror Cover, Front Fog Lamp Cover, Daytime Running Lamp สำหรับรถยนต์ประเภทต่างๆ เช่น รถ Pick up, Eco Car ทำให้เกิดการสรุปสู่ที่มีการออกแบบอุปกรณ์ ประดับรถยนต์มากขึ้นอย่างต่อเนื่อง อีกทั้งยังเป็นผู้รั้ว 2 Brand สินค้าอะไหล่ที่ลงตลาดในประเทศไทย ประเภท REM (Replacement Equipment Manufacturing) และ Accessories ในนามไฟตราเพชร (Diamond) และ ในนาม FITT สำหรับอุปกรณ์ประดับยนต์ ซึ่งปัจจุบันสินค้าทั้ง 2 Brand ได้รับการยอมรับในคุณภาพและการออกแบบที่ถือว่าเป็นล่าดับที่ 1 ของประเทศไทย

ประวัติผู้บรรยาย
คุณปราโมทย์ พัฒนพงษ์ทอง
การศึกษา มัธยมศึกษาปีที่ 6 โรงเรียนพระรามราษีวิทยา อ.ปากเกร็ด จ. นนทบุรี ตำแหน่งปัจจุบัน ประธานกรรมการ บริษัท วิเชียรไดนามิค อินดัสตรี จำกัด
- ประธานกรรมการ บริษัท พีเอสจี อินเตอร์เทรด จำกัด
- ประธานกรรมการ บริษัท วิเชียรโปรเกรสซีฟพาร์ท จำกัด
- นายกิตติมศักดิ์ สมาคมผู้ผลิตชิ้นส่วนยานยนต์ไทยปี 2546-ปัจจุบัน
- ที่ปรึกษา สมาคมอุตสาหกรรมยานยนต์ไทย
- ที่ปรึกษา สมาคมอุตสาหกรรมยานยนต์ไทย กลุ่มอุตสาหกรรมชิ้นส่วนและอะไหล่ยานยนต์ สภาอุตสาหกรรมแห่งประเทศไทย

ประสบการณ์
- จบการศึกษาระดับอุดมศึกษา 35 ปี ทางด้านการส่งเสริมการผลิตชิ้นส่วน และการออกแบบอุปกรณ์ประดับยนต์ รวมถึงการส่งเสริมการสร้าง Brand สินค้า และการส่งออกไปจำหน่ายอย่างต่อเนื่อง
- ผู้รับผิดชอบและสร้างแรงกระตุ้นให้เกิดการออกแบบกลุ่มสินค้าประดับยนต์ หลากหลายชนิด เช่น Mirror Cover, Front Fog Lamp Cover, Daytime Running lamp
Surface Treatment Technology for Automotive Parts

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Abstracts

There are many kinds of surface treatments for automotive parts due to various objectives are required in automotive industries, e.g. corrosion, wear- as well as fatigue resistance. Numerous automotive parts are involved with mechanical loading. Consequently, the surface treatments providing wear and fatigue resistance are usually mentioned. Carburizing, Nitriding and Carbonitriding processes are well-known methods for Thailand industries and generally used to resist wear problems. For the fatigue resistance, mechanical surface treatments, deep rolling and/or shot peening are applied to automotive parts. Compressive residual stresses and work hardening layer at the surface and in near surface regions of the mechanically surface treated parts are key to enhance the fatigue lifetime. However, a basic concept as well as details of the deep rolling and shot peening are known unclearly in Thailand. Therefore, in this presentation, basic concepts and some details of mentioned surface treatments will be addressed, especially deep rolling and shot peening processes that play recently more and more important role for the automotive industrial chain in Thailand.

Biography

Dr.-Ing. Patiphan Juijerm is full lecturer in Department of Materials Engineering, Faculty of Engineering, Kasetsart University, Thailand. He received his B.Eng. degree in Production Engineering from King Mongkut’s University of Technology Thonburi in 1995, his M.Eng. degree in Metallurgical Engineering from Chulalongkorn University in 1999, and his Dr.-Ing. degree in Mechanical Engineering from the University of Kassel, Federal Republic of Germany, in 2006. Recently, He works as a Head of Materials Innovation Center at Faculty of Engineering, Kasetsart University, Thailand.
Advanced Forming Technology: Fine Blanking

Mr. Ronnarong Namuangrak
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Abstracts

Fine Blanking is the process of cutting, forming, metal stamping uncontrollable bursts or cracks up a notch. The cut surface of the specimen straight and beautiful. Include drilling small holes. And a hole near the edge of the workpiece is less than the thickness of the metal. Specimens with high smoothness (Flatness) can coordinate to cutter pump with high resolution. The different pieces of the first to produce the final piece is very different. The machines are specifically designed and molded to be combination of the pump and cold forming. Which can reduce the process of finishing it. Clearance Fine Blanking mold will be less than the pump cut molds for other.

Biography

Mr. Ronnarong Namuangrak
1994 - 1997 VCS Limited Partnership (Die Design & Die Making Metal Mold)
1998 - 2004 VCS Limited Partnership (Engineering Manager)
2005 - 2009 VCS Limited Partnership (Factory Manager)
2010 Training Fine Blanking at Akita Fine Blanking Corporation (Japan)
2011 - 2013 AA Fine Blanking Co., Ltd. (Factory Manager)
Joint Venture Company VCS Group & Akita Fine Blanking Corporation (Japan)
Parallel Sessions Theme C
“Future Automotive Technology”

Future Automotive Technology in China
by Mr. Wu Huan
President, SAIC Motor-CP Co., Ltd.

Advanced Safety System in Automotive
by Mr. Thomas Chambers
Managing Director, Continental Automotive (Thailand) Co., Ltd.

Apply GPS Tracking for Safety and Security in Automotive
by Mr. Saksin Chongolnee
CEO, CCM Systems Co., Ltd.

Development of Natural Gas Engine for Heavy Duty Truck
by Mr. Chakrit Jailor
Manager of Research and Development for Truck, Isuzu Technical Center of Asia Co., Ltd.

Safety of CNG and LPG for Usage in Automobiles
by Mr. Maesai Prapasawat
CEO, Versus Thailand Co., Ltd. President, Thai Association of Gas Equipment Installers for Vehicles

Automotive Australian 2020
by Mr. Linsey Siede
Director, Business Excellence Division, Automotive Co-operative Research Centre (AutoCRC), Australia

Development of Sustainable Transportation Technology
Mr. Nick Leach
Director, Vehicle Sale Support Asia
By Sale & Service Management, Scania (Hong Kong) Limited

Biofuels: The Technologies, Challenges and Opportunities (US Experiences)
by Dr. Candace S. Wheeler
GM Technical Fellow, General Motors R&D Center, USA

Future Automotive Technology
by Dipl. Ing. Helmut Sikinger
AVL List GmbH (Headquarter) Austria

Electric Vehicle Research and Development
by Associate Professor Werachet Khan-ngern, Ph.D.
Department of Electrical Engineering, King Mongkut’s Institute of Technology Ladkrabang
Future Automotive Technology in China

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Abstracts

During the last two decades, China Automotive industry achieved rapid progress to become No. 1 of both car production & market, while the energy security and environment protection also becomes No. 1 challenge at same time for sustainable development of the pillar industry. Chinese government has been spending a lot effort to implement “Green Strategy” which is mainly focused on powertrain electrification by releasing more aggressive fuel consumption regulations together with stimulation programs. The most challenge and key factor of BEV and PHEV is still the performance and cost of battery, so currently HEV, including strong hybrids, mile hybrids, and start/stop vehicles, are more cost effective and gaining market momentum, and PHEV is still pursued by many OEM’s, while BEV becomes more as long term program. Though the actual progress of green strategy is behind the original expectation of government, but environmental pressure and limitation of fossil fuel will continuously push China Auto Industry to move from conventional powertrain towards electrified ones.

SAIC Motor Corporation Limited (SAIC Motor) is the largest automotive corporation listed on the A-Shares market in China. By the end of 2012, the total stock of SAIC motor has reached 11 billion shares. The current main businesses of SAIC Motor cover the R&D, manufacturing, and sales of whole-vehicles (including passenger and commercial vehicles), spare parts (including engines, transmissions, powertrain, chassis, interior and exterior trim, electronic appliances, etc.), as well as auto financing, logistics, vehicle information, second-hand cars, and other car service and trading business. With the registration of joint venture SAIC Motor – CP Co., Ltd. early this year, SAIC Motor together with CP Group becomes one of members of Thailand Automotive Industry and are willing to contribute to achieve green and sustainable development by introducing high quality MG brand products.

Biography

Mr. Huan Wu, as president of SAIC Motor – CP Co., Ltd since February this year, is responsible to form and lead team for establishing the new automotive joint venture between SAIC Motor Corporation Limited and CP Group in Thailand. With 22 years working in SAIC Motor and its’ joint venture, he had experienced the dramatic development of China automotive industry, including 6 years in SAIC Tech Center, 4 years in Pan Asia Technical Automotive Center (PATAC) and 11 years in Shanghai General Motor (SGM) while with his career path from an engineer to the executive manager.
Advanced Safety System in Automotive

Mr. Thomas Chambers
Managing Director, Continental Automotive (Thailand) Co., Ltd
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Abstracts

Continental is one of the world's leading automotive suppliers, generating sales revenue of 32.7 billion euros in 2012. As a supplier of brake systems, powertrain and chassis systems and components, instrumentation, infotainment solutions, vehicle electronics, tires and technical elastomer products, Continental is contributing to greater driving safety and to global environmental protection. Continental is also a competent partner in networked automotive communication. Continental currently has around 170,000 employees in 46 countries. The Chassis & Safety Division (C&S) is one of the five divisions that make up Continental AG. Chassis & Safety develops and produces products and components in the field of driving safety and dynamics. Its core competence is the integration of innovative, high-quality components and its profound systems expertise into the ContiGuard safety concept. Chassis & Safety's expertise covers the entire driving safety spectrum. The Division develops and produces electronic and hydraulic brake and chassis control systems, sensors, advanced driver assistance systems, airbag electronics and sensors, washer systems and electronic air suspension systems.

Biography

Mr. Thomas Chambers is responsible for Thailand automotive operations which comprise of Powertrain manufacturing in Rayong and Sales and administrative offices in Bangkok. He also serves as the Head of SE Pacific for the Automotive Divisions of the company. During his tenure, SE Pacific and Thailand have become the next big investment destinations for Continental, with planned investments to capture the growing automotive market in the region.

He is an active member of the Thailand business community such as the AHK German Thai Chamber of Commerce (GTCC), the Automotive Council of the European-ASEAN Business Centre (EABC), and executive committee member for the Automotive Council of the American Chamber of Commerce, Thailand (AMCHAM).
ระบบการติดตามรถด้วยดาวเทียมหรือระบบ GPS Tracking (GPS VEHICLE TRACKING SYSTEMS) มีหลักการทำงานโดยอาศัยเทคโนโลยีของระบบดาวเทียม GPS มาทำงานร่วมกับเทคโนโลยีเครือข่ายของระบบโทรศัพท์เคลื่อนที่ (GPRS) เพื่อการติดตามพาหนะหรือติดตามผู้คน โดยมีลักษณะเฉพาะคือ เป็นระบบแบบ Real Time ติดตามได้ตลอดเวลา 24 ชม. ระบบ GPS Tracking เป็นเครื่องมือที่ใช้บริหารจัดการที่ดีที่สุด สำหรับเพิ่มประสิทธิภาพในการขับขี่ การติดตามรถได้ตลอดเวลา 24 ชม. ระบบ GPS Tracking เป็นเครื่องมือที่ใช้บริหารจัดการที่ดีที่สุด สำหรับเพิ่มประสิทธิภาพในการขับขี่ การติดตามรถได้ตลอดเวลา 24 ชม.
Development of Natural Gas Engine for Heavy Duty Truck

Mr. Chakrit Jailor

Chief of Medium Duty Truck Division,
Commercial Vehicle Product Planning & Engineering Department, Isuzu Technical Center of Asia Co., Ltd.

E-mail: chakrit_jailor@ita.isuzu.co.jp

Abstracts

The increase of diesel price had a big affect on the transportation industry that operated primary by using diesel engine. Thus the adjustment of diesel engine for the renewable or alternative energy was focused in order to be the way to reduce expenses. Natural gas was the outstanding alternative energy that Isuzu researched to use for the regular diesel engine. The methodology of Isuzu diesel engine development for efficient use with natural gas (dedicated or mono gas system engine) was firstly to tune up the engine compression ratio, secondly to renew the intake system, thirdly to install the fuel control system as well as exhaust-gas control system.

The only natural gas-used Isuzu engine was officially experimented in Thai transportation industry in 2007. The prototype vehicle, in which natural gas-used Isuzu engine was assembled, was produced as the Bangkok Mass Transit Authority’s bus. The bus was experimentally used in the daily regular operation, whereas the gas control system was tuned up especially for Thai gas.

The experimental result was satisfied both energy consumption ratio and driving efficiency. As a consequence, the achievement brought about the production of Isuzu’s heavy duty trucks which started marketing on 2008.

Biography

Mr. Chakrit Jailor is the chief engineer of the Medium Heavy Duty Truck Division, Commercial Vehicle Product Planning & Engineering Department, Isuzu Technical Center of Asia Co., Ltd. He has a B.Eng degree in Mechanical Engineering from the Faculty of Engineering, Khonkaen University. Mr. Chakrit also succeeded 3-years Engineering Apprenticeship Programme from Isuzu Motors, Kawasaki, Japan.
บทคัดย่อ

การตัดสินใจนำรถยนต์ที่ใช้ไปติดตั้งแก๊ส ไม่ว่าจะเป็นระบบ LPG หรือ NGV เพื่อลดค่าใช้จ่ายต่อเดือนที่หมดไปกับการใช้น้ำมัน ควรทำความเข้าใจในเรื่องหลักๆ 3 เรื่อง เรื่องแรก ความรู้ความเข้าใจเกี่ยวกับ มาตรฐานอุปกรณ์และระบบความปลอดภัยของอุปกรณ์แก๊สที่นำมาติดตั้ง เรื่องที่สอง ข้อพิจารณาเลือกศูนย์ติดตั้งหรืออู่ที่มั่นใจได้ว่าจะนำรถไปใส่ถังแก๊สตามมาตรฐาน และสุดท้ายสิ่งที่ต้องให้ความสำคัญเป็นอย่างยิ่ง คือ วิธีการดูแลรถยนต์หลังการติดตั้งแก๊สเรียบร้อยแล้ว เพราะความปลอดภัยและความคุ้มค่าในการใช้รถยนต์ที่ติดตั้งแก๊สนั้นไม่ได้อยู่ที่อุปกรณ์และผู้ติดตั้งเพียงอย่างเดียว แต่ยังอยู่ที่ผู้ใช้เรื่องการดูแลรถยนต์หลังการติดตั้งหรือไม่

ประวัติผู้บรรยาย

คุณแม่สาย ประภาสะวัต

เกิด на มีนาคม พ.ศ. 2528 อายุ 28 ปี สัญชาติไทย ภูมิลำเนาจังหวัด ลพบุรี การศึกษา คณะเศรษฐศาสตร์ มหาวิทยาลัยกรุงเทพ สถานที่ทำงาน บริษัท เอ็ม.เอส.เซอร์วิส เซ็นเตอร์ จ ากัด 79 ถ.บางบอน 5 แขวงบางบอน เขตบางบอน กรุงเทพฯ 10150 โทร. 02-892-5755 แฟกซ์. 02-8925744 ตำแหน่ง ประธานเจ้าหน้าที่บริหารบริษัท เอ็ม.เอส.เซอร์วิส เซ็นเตอร์ จ ากัด  นายกสมาคมผู้ติดตั้งอุปกรณ์ใช้แก๊สสำหรับยานยนต์ นโยบายและอุดมการณ์ในการทำงาน พัฒนาบุคลากรในองค์กรให้มีชีวิตที่ดีขึ้น
Automotive Australian 2020

Mr. Linsey Siede
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Automotive Co-operative Research Centre (AutoCRC), Australia
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Abstracts

AutoCRC has been in existence since 2005 and the first tranche of funding until June 2012 enabled the successful delivery of a wide range of projects offering significant benefits to the automotive industry. This includes the well-regarded Automotive Supplier Excellence Australia (ASEA) and the development of the Australian Automotive Technology Roadmap which was commissioned by the Automotive Industry Innovation Council (AIIC) and which forms the basis of the activities currently undertaken by AutoCRC.

In the current phase 2 of AutoCRC running until 2017, the research agenda has again been set by industry and addresses three of the Roadmap priorities that require complex collaboration, multi-disciplinary research and new human capital:

• Vehicle Electrification – to position the Australian industry in key elements of the global trend towards electric vehicles (EVs)
• Gaseous Fuels – to address both technological and social barriers to the uptake of gaseous fuels in cars and trucks
• Sustainable Automotive Manufacturing – to make the Australian automotive industry sector cleaner, more efficient and produce greener vehicles and components more competitively

The Roadmap and AutoCRC vision is being achieved by connecting Australian researchers and companies with equally ambitious international companies. Complementing a strong Australian cohort, AutoCRC now has new participants from Malaysia, China and Thailand, to ensure that Australian products and know-how created from the CRC outputs are immediately integrated into high growth global supply chains. These investments in AutoCRC will lead to further investment and more jobs for Australia.

Biography

Mr. Linsey has occupied positions at the highest levels within the global automotive industry. Beginning his career in 1976 with GM in Australia, he also worked at Pontiac in the USA specializing in powertrain engineering. Commencing in 1985, Linsey helped build the Delphi organization in Australia becoming Managing Director in 1990, before moving to Singapore in 1998 as Director of Marketing, Planning, Technical and PR for Delphi Asia Pacific. Prior to his current role at AutoCRC, Linsey was the Executive General Manager of ANCA, doubling sales, growing exports to 98% of turnover, opening sales and engineering facilities in China, Japan, Italy, Brazil, Taiwan and Israel, and two manufacturing facilities in Thailand. Linsey is currently the Executive Director of Likatibro Consulting Pty Ltd, the Executive Director of ASEA, and a non-executive Director of Kangan Institute.
Abstracts

Scania specializes in producing trucks, buses and coaches for heavy duty road transportation. Society needs road transport of goods and people so it is critical that this type of transportation can be sustainable. The goal must be to minimize the impact on the environment throughout the complete transport process. This includes not only the vehicle itself but also how it is used.

The harmful emissions from a heavy duty vehicle fall into two categories, emissions felt at the roadside and those contributing to global warming leading to climate change. Engine and exhaust after-treatment technology has moved on so far and so quickly that the emissions felt at the roadside can be virtually zero. The technology used to achieve this will be presented including comparisons between Euro VI and earlier emissions standards.

Emissions adding to the generation of global warming can be addressed in three ways – less transport through smarter transport solutions, increased energy efficiency to get more motive power from the fuel, and the use of bio-fuels. The challenges and opportunities for each of these will be presented including a summary of today’s bio-fuels and their advantages and disadvantages.

Biography

Mr. Nick Leach has an engineering background and has worked for the Swedish heavy duty vehicle manufacturer, Scania, for 37 years. As well as time spent in the Scania Head Office in Sweden, he has managed their Bus and Coach Division in the UK, held the position of Marketing Director in South Africa, and been responsible for Scania’s activities in Queensland, Australia. He is currently based in Hong Kong as the Director for Vehicle Sales Support in the Asian Region. Scania actively works towards sustainability in heavy duty road transport and Nick is passionate about this area of the business.
Organized by:

Biofuels: The Technologies, Challenges and Opportunities (US Experiences)

Dr. Candace S. Wheeler
GM Technical Fellow,
General Motors R&D Center, USA
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Abstracts

The biofuels space continues to change and evolve as it moves beyond 1st generation corn ethanol and biodiesel to include newer feed stocks, processes, and fuels. While many believe that biofuels will play a key role in diversifying our energy resources in the future, others question if biofuels are sustainable. What fuels are expected to come on-line – when, where, and at what volumes? What are the technologies involved? Are they now or will they ever be cost competitive with petroleum-based fuels? What impact will the severe drought in the US last summer have on food prices, ethanol production, and the ability to meet the Renewable Fuel Standard (RFS) targets? To answer these and other questions, General Motors recently completed an in-depth analysis of the biofuels sector, taking a hard look at the technologies, challenges, and opportunities. This presentation will give a brief overview of those findings

Biography

Dr. Candace Wheeler is a Technical Fellow at General Motors’ Research and Development Center where she serves as the biofuels Lead in their Global Energy Systems Intelligence Center. Author of numerous publications, Dr. Wheeler serves on the advisory board of several leading energy and biofuels organizations including two of the DOE’s BioEnergy Research Centers. She has been an invited speaker and panelist at several of the industry’s leading conferences. She received a GM Chairman’s Honor Award in both 2007 and 2009 for her work on alternative fuels. She received her BS degree in chemistry from Wheaton College, Wheaton, IL and her Ph.D. in pharmacology from Wayne State University School of Medicine, Detroit, MI.
Abstracts

A sustainable reduction of CO₂ emissions - respectively a dramatic improvement of fuel consumption at affordable product cost is the key technology driver with passenger cars worldwide. Whereas in the recent years this task has seen very much linked with extensive electrification, the moderate market acceptance of Battery Electric Vehicles and Plug-In Hybrid now shifts more focus on the conventional powertrain again. However, new legislative boundaries (WLTP, RDE) require also further emission refinement in the whole engine map, penalizing especially the most fuel efficient technologies like Diesel and lean burn SI. On the other hand, the high on cost of electrified powertrains results in slow increase of their market share. As a consequence, there will not be a single technology mainstream, but an even increasing diversification of propulsion system.

Thus the key challenge with the development of new powertrains will be to provide specific solutions for different markets and vehicle categories within cost effective modular powertrain systems. For most competitive powertrain solutions, the ICE must not be developed separately, but in close interaction with the other powertrain elements including the control strategies. Both the trend towards downsizing and new transmission concepts enhancing ICE operation in the fuel efficient high load regime will have significant impact on the combustion systems. With best matching of engine, transmission and vehicle characteristics, attractive CO₂ emissions can be achieved within moderate cost.

Biography

Dipl. Ing. Helmut Sikinger, AVL List GmbH (Headquarters)

Education:
1996 – 2000: University Program on Automotive Engineering in Graz, Austria

Professional Experience (at AVL):
2000 – 2006: Gasoline Engine Development
2006 – 2008: Lead Engineer for DI Systems and Calibration of Demo cars
2009 – 2012: Project Management Prototype Engines & Vehicles
Since 2012: Project Management Powertrain Engineering

Symposium:
2004: Stratified Combustion Systems (Aachen - Germany)
2006: Powertrain Trends on Gasoline Engines (Munich - Germany)
Organized by:
Electric Vehicle Research and Development
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Abstracts
This work presents the research and development of electric vehicle for green and sustainable environment from the past to present and the trend. The major parts of EV system are described such as battery technology, hydrogen and super-capacitors. Driving system, AC vs DC motors are discussed. Motor selection criteria are focused. EV R&D in Thailand is introduced. Finally, the government policy is proposed based on the global EV concept.

Biography
Education:
- B.Eng (EE), M.Eng (EE) King Mongkut's Institute of Technology Ladkrabang
- Ph.D. (EE), DIC (Power Electronics) Imperial College of Science, Technology and Medicine, University of London

Job: Associate Professor at King Mongkut's Institute of Technology Ladkrabang

Research areas: Green energy technology, PEM fuel cell, electric vehicles, Electromagnetic compatibility (EMC) and power electronics
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