



*The*  
**28<sup>th</sup>**

**SMALL POWERTRAINS  
AND ENERGY SYSTEMS  
TECHNOLOGY CONFERENCE**

**SETC**  
**2024**

**PRELIMINARY PROGRAM**

November 4-7, 2024

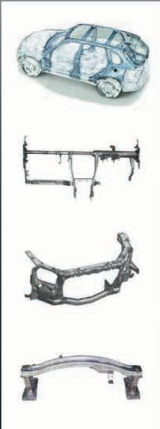


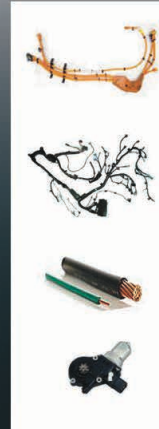
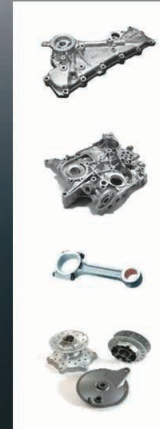
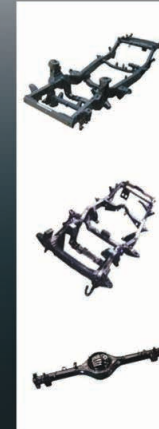

Bangkok, Thailand



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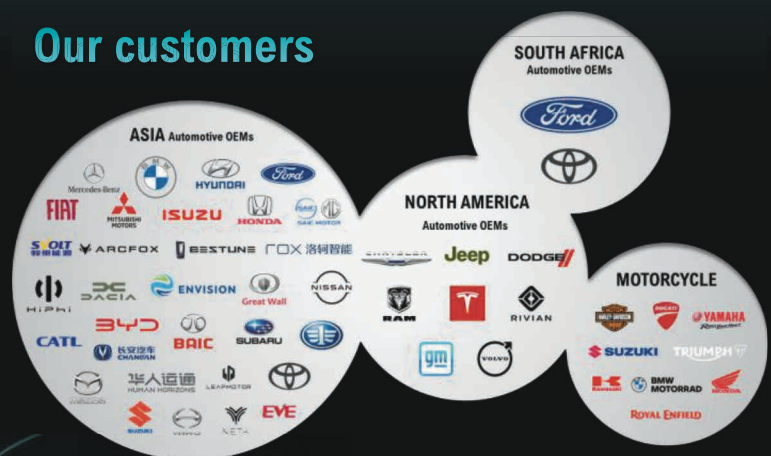
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## Our customers



## Global operations



Contact us:  
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4/3 Moo.1, Bang Na-Trad Road., Bang  
Chalong, Bang Phli, Samut Prakan 10540

Tel: (66) 2-325-8000  
E-mail: [info@thaisummit.co.th](mailto:info@thaisummit.co.th)  
Website: [www.thaisummit.co.th](http://www.thaisummit.co.th)



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# Program at-a-Glance

Time\Date	Mon	Tue	Wed	Thu
	Nov4,24	Nov5,24	Nov6,24	Nov7,24
08:00-09:00				
09:00-10:00	Technical Visit	Opening Ceremony Keynote Addresses	Technical Sessions & NPT session	Technical Sessions & NPT session
10:00-11:00		Networking Break	Networking Break	Networking Break
11:00-12:00		Technical Sessions & NPT session	Technical Sessions & NPT session	Technical Sessions & NPT session
12:00-13:00		Lunch	Lunch	Lunch
13:00-14:00		Technical Sessions & NPT session	Technical Sessions & NPT session	Award & Closing Ceremony
14:00-15:00	Registration	Networking Break	Networking Break	
15:00-16:00		Technical Sessions & NPT session	Plenary Session	
16:00-17:00				
17:00-18:00				
18:00-19:00				
19:00-20:00		Welcome Reception	Banquet	
20:00-21:00				

Location	Event	Room
The Berkeley Hotel Pratunam	Registration	Foyer in front of Palladium Hall A
	Poster Session	Palladium Hall B
	Opening Ceremony, Keynote Addresses, Plenary Session, Awards & Closing Ceremony, New Product Technology Sessions	Palladium Hall A
	Technical Sessions	Palladium Hall A, Jubilee A, Jubilee B, Mulberry
	Lunch	Dining Room
	Exhibition & Networking Break	Palladium Hall B
	Welcome Reception, Banquet	Mayfair Ballroom A

Note: Room and time are subject to change in the final program



# Introduction of SETC2024

## Theme

### Small Powertrain's Own Role in the Future

### - How Can It Contribute to Build a Prosperous Carbon Neutral Society?

Since its first event in 1989, the Small Engine Technology Conference (SETC) has consistently served as the international technology conference for small engines, powertrains, and related products. As of 2022, the conference's scope has been expanded to include all types of small energy systems. Consequently, the conference name has been updated to the "Small Powertrains and Energy Systems Technology Conference (SETC)".

SETC is jointly organized each year by the Society of Automotive Engineers of Japan, Inc. (JSAE) and SAE International with the cooperation of Japan Land Engine Manufacturers Association (LEMA). For SETC2024, the Society of Automotive Engineers – Thailand (TSAE) will serve as a co-organizer, functioning as the SETC2024 Organizing Committee of Thailand. SETC2024 will take place at the Berkeley Hotel Pratunam, Bangkok, from November 4 to November 7, 2024.

Regarding the COP26 meeting, many countries announced their goals for carbon neutrality and net-zero emissions. SETC2024 has chosen the conference theme: "Small Powertrain's Own Role in the Future – How Can It Contribute to Building a Prosperous Carbon-Neutral Society?" This theme reflects the conference's commitment to contributing to technological evolution, industrial promotion, and the realization of carbon neutrality.

## The History of SETC

City	Country	City	Country
1989 Milwaukee	USA	2009 Penang	Malaysia
1991 Yokohama & Hamamatsu	Japan	2010 Linz	Austria
1993 Pisa	Italy	2011 Sapporo	Japan
1995 Milwaukee	USA	2012 Madison	USA
1997 Yokohama	Japan	2013 Taipei	Taiwan
1999 Madison	USA	2014 Pisa	Italy
2001 Pisa	Italy	2015 Osaka	Japan
2002 Kyoto	Japan	2016 Charleston	USA
2003 Madison	USA	2017 Jakarta	Indonesia
2004 Graz	Austria	2018 Düsseldorf	Germany
2005 Bangkok	Thailand	2019 Hiroshima	Japan
2006 San Antonio	USA	2022 Himeji	Japan
2007 Niigata	Japan	2023 Minneapolis	USA
2008 Milwaukee	USA	2024 Bangkok	Thailand

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Endorsed by FISITA acknowledges the highest quality international technical events and conferences delivered exclusively through the FISITA international membership network.

[www.fisita.com](http://www.fisita.com)

# Acknowledgement

**Date: November 5, 2024**

**Time: 9:00 - 9:30 hrs.**

**Place: Palladium Hall A, 10th Floor**

**Welcome Remarks from**



**Chadchart Sittipunt**  
**Bangkok Governor**

I am very pleased to be able to gather with everyone for the 28th Small Powertrains and Energy Systems Technology Conference (SETC2024).

The SETC is an international conference has consistently served as the international technology conference for small engines, powertrains, and related products. In 1989, the first SETC took place in Milwaukee, USA., and since then it has been hosted internationally and we have now reached the 28th conference held in Bangkok which the last time host in 2005. I would like to express my deepest respect for the efforts of the Society of Automotive Engineering



# Sponsors & Advertisers

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Honda Motor Co., Ltd.

# Committee Members

## JSAE Honorary Committee 2024

Chair	Kenji	Komatsu	Yamaha Motor Co., Ltd.
	Shigeyuki	Higashi	Japan Land Engine Manufacturers Association
	Seiichi	Kai	Kawasaki Motors, Ltd.
	Hideo	Shoji	Nihon University
	Tsuyoshi	Tanaka	Suzuki Motor Corporation
	Ryushi	Tsubota	Honda Motor Co., Ltd.

## JSAE General Committee 2024

Chair	Takashi	Mitome	SUZUKI MOTOR CORPORATION
	Yasuyuki	Muramatsu	Yamaha Motor Co., Ltd.
	Michihisa	Nakagawa	Kawasaki Motors, Ltd.
	Tadao	Okazaki	Japan Land Engine Manufacturers Association/ KUBOTA Corporation
	Hiroya	Ueda	Honda Motor Co., Ltd.
	Koji	Yoshida	Nihon University

## JSAE Organizing Committee 2024

Chair	Minoru	Iida	Yamaha Motor Co., Ltd.
	Shunsuke	Higasihara	Kawasaki Motors, Ltd.
	Ryosuke	Ishikawa	Suzuki Motor Corporation
	Kazue	Kondo	Yamaha Motor Co., Ltd.
	Tatsuya	Kuboyama	Chiba University
	Yohei	Kurihara	Suzuki Motor Corporation
	Hiroataka	Kurita	Yamaha Motor Co., Ltd.
	Yasuyuki	Muramatsu	Yamaha Motor Co., Ltd.
	Michihisa	Nakagawa	Kawasaki Motors, Ltd.
	Tadao	Okazaki	Japan Land Engine Manufacturers Association/ KUBOTA Corporation
	Shigeo	Sano	Honda R&D Co., Ltd.
	Junichiro	Suzuki	Honda Motor Co., Ltd.
	Atsuhiko	Takahashi	Honda Motor Co., Ltd.
	Masaki	Torigoshi	Yamaha Motor Co., Ltd.
	Koji	Yoshida	Nihon University



# Committee Members

## JSAE Technical Committee 2024

Chair	Keisuke	Namekawa	SUZUKI MOTOR CORPORATION
	Yuji	Araki	Yamaha Motor Co., Ltd.
	Akira	Iijima	Nihon University
	Keisuke	Ito	Suzuki Motor Corporation
	Tatsuya	Kuboyama	Chiba University
	Yuji	Mihara	Tokyo City University
	Takashi	Mitome	Suzuki Motor Corporation
	Michihisa	Nakagawa	Kawasaki Motors, Ltd.
	Toru	Nakazono	Japan Land Engine Manufacturers Association/ YANMAR HOLDINGS CO., LTD.
	Gaku	Naoe	Honda Motor Co., Ltd.
	Tadao	Okazaki	Japan Land Engine Manufacturers Association/ KUBOTA Corporation
	Hideki	Saito	Honda Motor Co., Ltd.)
	Masahito	Saito	Kawasaki Heavy Industries, Ltd.
	Shigeho	Sakoda	Yamaha Motor Co., Ltd.
	Kensuke	Suzuki	Suzuki Motor Corporation
	Yusuke	Suzuki	Japan Land Engine Manufacturers Association/ KUBOTA Corporation
	Shogo	Tadakuma	Suzuki Motor Corporation
	Satoshi	Takayama	Suzuki Motor Corporation
	Staphen	Teng	Automotive Research & Testing Center
	Shingo	Ueda	Honda Motor Co., Ltd.
	Hiroya	Ueda	Honda Motor Co., Ltd.
	Takuya	Warashina	Honda Motor Co., Ltd.
	Soichiro	Watanabe	Japan Land Engine Manufacturers Association/ KUBOTA Corporation
	Wataru	Yamamoto	Kawasaki Motors, Ltd.
	Tomoaki	Yatsufusa	Hiroshima Institute of Technology
	Koji	Yoshida	Nihon University

# Committee Members

## SAE Technical Committee 2024

Chair	Stephan	Schmidt	Graz University of Technology
	Kai	Beck	ANDREAS STIHL AG & Co. KG
	Mikael	Bergman	KTH Royal Institute of Technology
	Silvio	Defanti	University of Modena and Reggio Emilia
	Giovanni	Ferrara	University of Florence
	Bernard	Geiger	Know Center Graz
	Marcus	Gohl	APL Automobil-Prüftechnik Landau GmbH
	Adrian	Irimescu	STEMS-CNR
	Maurice	Kettner	Karlsruhe University of Applied Sciences
	Roland	Kirchberger	Graz University of Technology
	Paul	Litke	US Air Force Research Laboratory
	Simona	Merola	STEMS-CNR
	Arun	Ravindran	Cummins Inc.
	Paul	Richards	-
	Leonid	Tartakovsky	Technion - Israel Institute of Technology
	Jürgen	Tromayer	Graz University of Technology
	Alexander	Winkler	University of Applied Sciences Upper Austria

## TSAE Honorary Committee 2024

Chair	Phulporn	Saengbangpla	TSAE
	Kaurkeart	Boonchukusol	TSAE
	Ninnart	Chaithirapinyo	TSAE

## TSAE General Committee 2024

Chair	Adisak	Rohitasune	TSAE
	Thibodee	Harnprasert	TSAE
	Piengjai	Keawsuwan	TSAE
	Aroon	Laowatanakul	TSAE
	Chaovalit	Mahatumaratana	TSAE
	Chakrawut	Raisaeng	Amita Technology (Thailand)
	Suparat	Sirisuwanangkura	TSAE
	Kriengsak	Wongpromrat	TAIA



# Committee Members

## TSAE Organizing Committee 2024

Chair	Suwat	Supakandechakul	TAIA/ Toyota Motor Thailand Co., Ltd.
	Kanya	Arayatanitkul	TAIA/ Toyota Motor Thailand Co., Ltd.
	Chi-na	Benyajati	TSAE/ National Metal and Materials Technology Center (MTEC)
	Oranuch	Boonskulsohit	TAIA
	Benjawan	Donghing	TAIA/ Thai Honda Co., Ltd.
	Tarin	Dulayapitak	TAIA
	Paphawarin	Jumpang	TAIA
	Savitree	Kaewphuangngam	TAIA/ Thai Honda Co., Ltd.
	Pongpan	Kaewtatip	TSAE/ King Mongkut's University of Technology Thonburi
	Khietisak	Khaipho	TSAE
	Rattiya	Khongchatri	TAIA/ Thai Honda Co., Ltd.
	Thanawat	Koomsin	TSAE
	Charoenrat	Lerdanaporn	TAIA/ Thai Yamaha Motor Co., Ltd.
	Boontawee	Nonthasawatsri	TAIA/ Toyota Motor Thailand Co., Ltd.
	Duangchai	Oden	TAIA/ Toyota Daihatsu Engineering & Manufacturing Co., Ltd.
	Danai	Phaoharuhans	TSAE/ King Mongkut's University of Technology Thonburi
	Suphant	Pornsoongsong	TSAE
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	Chanat	Ratanasumawong	TSAE/ Chulalongkorn University
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	Thanakom	Soontornchainacksaeng	TSAE
	Banpoch	Tengwongwattana	TAIA/ Toyota Motor Thailand Co., Ltd.
	Ruth	Wannaruetai	TSAE/ Honda Automobile (Thailand) Co., Ltd.

## TSAE Technical Committee 2024

Chair	Nuksit	Noomwongs	Chulalongkorn University
	Pornporm	Boonporm	Suranaree University of Technology
	Pachern	Jansa	Sripatum University
	Manop	Masomtob	ENTEC, NSTDA
	Danai	Phaoharuhans	King Monkut's University Technology Thonburi
	Poowanart	Poramapojana	Kasetsart University
	Chanat	Ratanasumawong	Chulalongkorn University
	Atsawin	Salae	Chulalongkorn University
	Chaiyut	Sumpavakup	King Monkut's University Technology North Bangkok
	Apiwat	Suyabodha	Rangsit University
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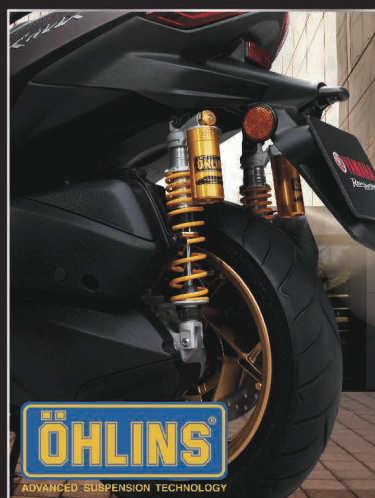


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# Conference Registration

## Registration Fee

Category	Advanced Online Registration (1) by <b>September 20, 2024</b>	Online Registration (2) Onsite Registration
Presenting Author and Session Chair/Co-chair (3)	THB 18,000	
Presenting Author (student)	THB 3,000	
TSAE/JSAE/SAE Member (4)	THB 20,000	THB 25,000
Student (5)	THB 3,000	THB 3,000
Accompanying Person (6)	THB 3,000	THB 3,500
Other than Those Above	THB 25,000	THB 30,000

(Tax is included)

\*THB = Thai baht

(1) Advance online registration will begin from early August till mid-September. Registration fee payment must be made with advanced registration.

(2) Online registration will close on **October 18, 2024**

(3) Presenting authors including ones for New Products Technology Session and session chairs/co-chairs are required to register and make payment by **Friday, September 20, 2024**. Please contact the Conference Secretariat if you encounter any difficulties. Otherwise, your paper will be deemed as withdrawn and will not appear in the proceedings.

(4) **Corporate membership is not applicable; only individual membership is available.**

(5) A Student, including a student presenting author, may be requested to show an ID on site.

(6) Accompanying person is a family member of a participant from any category except "Student," and is limited for one person only.

## Entitlements of Registration Fee

- Admission to the Opening, Awards & Closing Ceremony
- Admission to Keynote Addresses and Plenary Session
- Admission to Technical Sessions and Password to Download the Proceedings
- Admission to the Exhibition & Poster Session
- Admission to Welcome Reception, Lunches and Networking Breaks

Note: Neither an accompanying person nor an exhibitor is entitled to technical sessions and proceedings. However, exhibitors are allowed to attend NPT sessions.

# Conference Registration

## Pay Events

**Technical Visit THB 2,000** (Tax is included)

Date:	November 4, 2024
Time:	8:00-17:00 hrs.
Note:	Please apply for the technical visit in online registration. On-site application is not acceptable. The fee includes lunch.

See more details in the **page 16-17**, “Technical Visits.”

**Banquet THB 2,000** (Tax is included)

Date:	November 6, 2024
Time:	18:30-21:00 hrs.
Place:	Mayfair ballroom A, the Berkeley Hotel Pratunam
Note:	Please apply for banquet attendance ticket when register online. <b>On-site application will not be taken unless there is any cancellation.</b>

See more details in the **page 25**, “Reception & Banquet.”

## Payment Methods

### Online Registration

All Payment must be made in Thai baht (THB) with:

- Debit or Credit Card: VISA / MasterCard / American Express / Discover are acceptable.
- PayPal
- Bank Transfer: Only for those who will register in Thailand if preferred.

Note: A personal check is unacceptable.

### On-site Registration

All Payment must be made in Thai baht (THB) with:

- Debit or Credit Card: VISA / MasterCard / American Express / Discover are acceptable. (PayPal system)
- PayPal
- Bank Transfer: Only for those who have a bank account in Thailand.

Note: Cash & a personal check is unacceptable.

## Cancellation Policy

By <b>September 20, 2024</b>	90% of the registration fee <b>less</b> handling charges to be refunded.
By <b>October 18, 2024</b>	50% of the registration fee <b>less</b> handling charges to be refunded.
After <b>October 18, 2024</b>	No refund

Note: Cancel request must be e-mailed to the SETC2024 Email: [tsae2540@gmail.com](mailto:tsae2540@gmail.com)

# Access to Venue

## From Suvarnabhumi International Airport

### 1. Airport Rail Link:

The train takes about 30 minutes to Ratchaprarop Station, which is located in Pratunam. You will need to walk for around 10 minutes (700 m) to the venue.

Note: If you have luggage, this might not be a convenient transportation.

### 2. Taxi is the most convenient means of transportation directly to the venue. It takes about 50 minutes to reach the venue (Expressway). Besides the taxi fare, you must pay the airport surcharge and the highway tolls.

## From Don Mueang International Airport

### 1. Airport Bus A3 (Don Mueang Airport to Lumpini Park):

The bus takes about 50 minutes to Pratunam. You should get off the bus at Indra Square Pratunam, and walk around 7 minutes (500 m) to the venue.

Note: If you have luggage, this might not be a convenient transportation.

### 2. Taxi: It takes about 30 minutes to reach the venue (Expressway). Besides the taxi fare, you must pay the airport surcharge and the highway tolls.

## From BTS Skytrain

10 minutes walking through sky-walk distance from both Chit Lom and Siam station

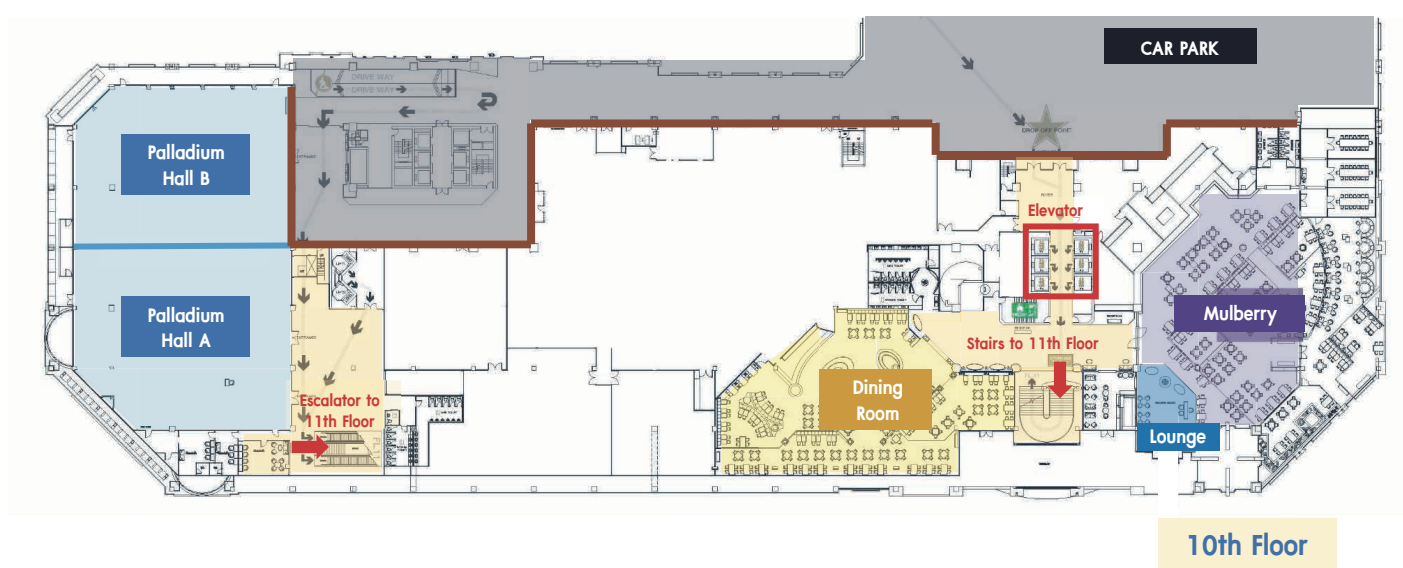




# Venue

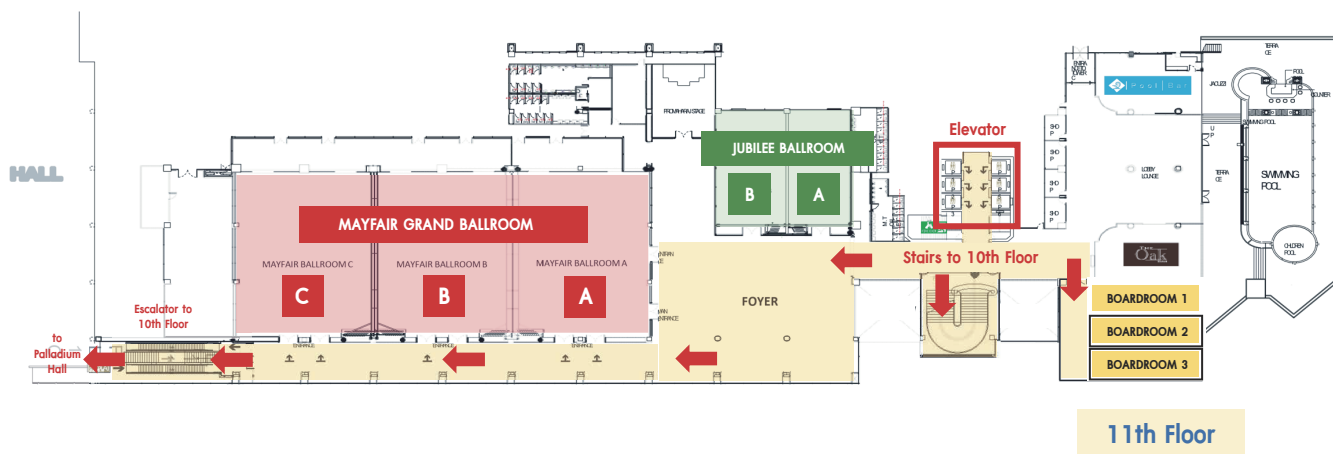
The Berkeley Hotel Pratunam

<https://berkeleypratunam.com/>



Foyer in front of Palladium Hall A	Registration
Palladium Hall A	Opening Ceremony, Keynote Addresses, Plenary Session, Awards & Closing Ceremony, New Product Technology Sessions, Technical Sessions
Palladium Hall B	Exhibition & Networking Break, Poster Session
Mulberry	Technical Sessions
Dining room	Lunch
The Lounge	Secretary room

# Venue



Mayfair Ballroom A	Welcome Reception, Banquet
Jubilee A, Jubilee B	Technical sessions
Boardroom 2	Presenter ready room
Boardroom 3	VIP room

## Free Wi-Fi Service

- Available in the conference area

## Smoking

- Not allowed in the hotel building
- Smoking area is located at the parking area outside of the building.

# Technical Visit

**DATE : NOVEMBER 4, 2024**

**TIME : 8:00-17:00 hrs.**

The technical visits for SETC2024 will be organized by the Society of Automotive Engineers of Japan (JSAE) and the Society of Automotive Engineers Thailand (TSAE) which offering distinctive and captivating courses for participants to choose. You have the option to select one of the following two courses:

**Course A** presents you great experience through the visit to Automotive & Tyre Testing, Research and Innovation Center.

**Course B** presents you an extraordinary experience through the visit to Amita Technology Thailand and the Erawan Museum



**course**



**The Automotive and Tyre Testing, Research, and Innovation Center (ATTRIC)** and Electric Vehicle Battery Testing Center is situated across 1,235 rais (488.28 acres) within the serene Lat Krathing forest garden area in Sanam Chai Khet, Chachoengsao Province. Its primary objective is to propel the automotive industry towards becoming a Super Cluster, focused on the forthcoming generation of the vehicle sector. Functioning as an educational hub, ATTRIC aims to disseminate technological advancements to pertinent industries.

The Thai Industrial Standards Institute (TISI) has spearheaded this initiative, facilitating testing and certification services for automotive products such as tires, safety belts, brake systems, and electric vehicle (EV) batteries.

ATTRIC's has been split into two phases:



**The first phase** centers on tire testing, specifically for UN R117 regulations encompassing aspects like rolling sound emission, adhesion on wet surfaces, and rolling resistance. This phase includes a tire testing proving ground alongside requisite testing equipment.

**The second phase** encompasses automotive and auto parts testing, boasting five outdoor proving grounds. These facilities cater to evaluating automotive performance, braking systems, hand brake systems, dynamics, and adhesion during turning.

ATTRIC is also actively involved in battery testing, covering a wide array of domains including mechanical integrity, protection against overcharging, over-temperature safeguarding, over-discharge prevention, thermal shock, vibration resistance, external short circuit protection, resilience to mechanical shock, and fire resistance.



## Schedule:

**Registration at 8:00 hrs.**



Berkeley Hotel Pratunam (Lobby)



ATTRIC



LUNCH



**Arrive at 17:00 hrs.**

Berkeley Hotel Pratunam



# Technical Visit

B

course

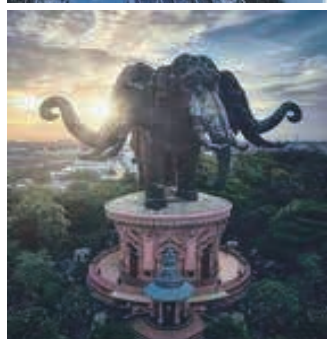


## Amita Technology (Thailand)

Energy Absolute PCL's lithium-ion battery plant, with the commitment to being a leader in alternative energy in Thailand and international, a partnership has been formed between Energy Absolute PCL and Amita Technology Inc. In parallel with the construction of the most advanced and largest lithium-ion battery factory in ASEAN. It has a capacity target of 50-gigawatt hours per year. Under the name of Amita Technology (Thailand) Co., Ltd. A technology leader that will revolutionize Thailand's energy industry into the era of the future.



The Erawan Museum is well known for its giant three-headed elephant art sculpture as its exterior. This is the first and biggest hand-carved sculpture in the world. It is considered an important tourist attraction as well as a holy shrine for many believers.



The massive three headed elephant made of bronze weight 250 tons, is 29-meter-high, 39-meter-long and stands on a 15-meter-high pedestal. The inside of the museum is modeled after the Hindu representation of the universe. The lower two floors are located inside the pedestal while the top floor is located in the belly of the elephant.

The 1st floor contains a collection of Chinese vases from the Ming and Qing dynasties. The 2nd floor houses precious antiques & arts including ceramics and European pottery. The top floor represents the Travatimsa Heaven, which is located on top of Mount Meru in Buddhist cosmology.

## Schedule:

Registration at 8:00 hrs.

Arrive at 17:00 hrs.



Berkeley Hotel Pratunam  
(Lobby)



Amita Technology  
Plant



LUNCH



Erawan Museum



Berkeley Hotel Pratunam

# Keynote Addresses

**Date: November 5, 2024**

**Time: 9:30 - 10:30 hrs.**

**Place: Palladium Hall A, 10th Floor**



**Kenji Komatsu**  
Chief General Manager  
Technology Research  
Center



## Education

Mar. 1992

Graduate School of Mechanical Engineering Nagoya Institute of Technology

## Career

Apr. 1992

Joined Yamaha Motor Co. – Assigned to the AM Division, where he was mainly in charge of head cylinder design

Aug. 2015

General Manager, AM Technical Division<sup>1</sup>

Jan. 2018

Executive General Manager, AM Business Unit

Jan. 2020

Senior General Manager, AM Development Section

Jan. 2022

Deputy Chief General Manager, Technology Research

Mar. 2022

Executive Officer

Jan. 2023

Chief General Manager, Technology Research Center (to present)



**Dr. Peter Scherm**  
General Manager  
EUROMOT aisbl



## Education

1984-1992

Study of Chemistry, University of Regensburg, German

1992

Doctorate Degree (PhD) in Organic Chemistry

## Career

1992-1997

Unilever PLC – Emmerich/Germany, Gouda/The Netherlands, Port Sunlight/United Kingdom

- R&D of catalytic converters for industrial and food applications

- Manager Production and Process Development for catalytic converters

1997-2004

Engelhard Technologies, Hannover/Germany

- Technical Manager R&D Oxidation Catalysts

- Head of Production and Process Development catalysts

- Key Account Manager European Automotive Diesel Catalysts

2005

- EUROMOT aisbl – European Association of Internal Combustion Engine and Alternative Powertrain Manufacturers, Frankfurt/Germany, Brussels/Belgium,



# Keynote Addresses



**Dr. Nattapol Rangsitpol**  
Permanent Secretary of  
Ministry of Industry



**MIND**

## Education

- MBA, Southern Methodist University, USA
- Doctorate Degree (PhD) in Engineering Management, Southern Methodist University, USA

## Career

2014-2015	Deputy Director General of Office of Industrial Economic
2015-2016	Secretary General of the Thai Industrial Standard Institute
2016-2017	Inspector General of Ministry of Industry
2017-2018	Secretary General of the Thai Industrial Standard Institute
2018-2019	Director General of Industrial of Office of Industrial Economic
2019-2022	Director General of Department of Industrial Promotion
October 2022	Permanent Secretary of Ministry of Industry

# Plenary Session

**Date: November 6, 2024**

**Time: 15:30 - 18:00 hrs. (Tentative)**

**Place: Palladium Hall A**

## Theme

### What Is the Optimal Energy Source for Small Mobility?

At SETC2024, we are focusing on the significant role that small mobility can play as a major step towards a carbon-neutral society. Our plenary session is dedicated to the pursuit of the most appropriate energy sources for small mobility, with the goal of finding the optimal balance between sustainability and performance.

Previous SETC events have seen a diverse array of energy sources come under discussion. This year, we are casting a spotlight on three key energy sources: "e-Fuels (CO<sub>2</sub> capture and manufacturing technology)", "biofuels", and "batteries". We intend to thoroughly assess the potential of these energy sources, taking into account regional characteristics to provide a comprehensive evaluation of their prospects.

We anticipate that this session will foster a collaborative environment where participants can identify and address the challenges these energy sources face, and collectively explore potential solutions. The knowledge acquired here is expected to be instrumental in guiding the future research themes of our attendees, thereby contributing to a clearer roadmap for a carbon-neutral society.

## Moderator



**Hideyuki Ogawa**  
Emeritus Professor,  
Hokkaido University,  
Japan

### Career

He took Ph.D. in engineering and appointed a full-time lecturer at Hokkaido University, Japan in 1986. He was promoted to a professor at Hokkaido University in 2004 and retired in 2024. He is now an emeritus professor in Hokkaido University. His research interest is combustion in internal combustion engines. He was awarded Horning Memorial Award from SAE in 2001 and elected to SAE Fellow in 2016. He held a co-editor of International Journal of Engine Research from 2018 to 2023.

### Awards and Recognitions

1990: Research Encouragement Award, Japan Institution of Marine Engineering  
2001: SAE 2001 Horning Memorial Award  
2003: Paper Award, Japan Institution of Marine Engineering  
2007: Fellow, Society of Automotive Engineers of Japan  
2008: Research Achievement Award, Japan Society of Mechanical Engineers, Engine Systems Division  
2009: Paper Award, Society of Automotive Engineers of Japan  
2010: Fellow, Japan Society of Mechanical Engineers  
2012: SETC Special Recognition Award  
2016: SAE Fellow

# Plenary Session



**Kotaro Tanaka**  
Professor,  
Mechanical System  
Engineering, Graduate  
School of Faculty of  
Applied Science and  
Engineering,  
Ibaraki University,  
Japan

**Subject is to be announced**  
(about CO2 Capture Technology, Direct Air Capture)

## Career

2007 Ph.D., Mechanical engineering, The University of Tokyo  
2007 - 2009 Postdoc, National Traffic Safety and Environment Laboratory  
2009 Postdoc, CNRS France, Université de Lorraine  
2010 - 2012 Postdoc, The University of Tokyo  
2012 - 2014 Lecturer, Mechanical Engineering, Ibaraki University  
2014 - 2018 Associate professor, Mechanical Engineering, Ibaraki University  
2018 - Professor, Mechanical Engineering, Ibaraki University

## Research Fields

Combustion chemistry of carbon recycling fuels, laser diagnostics, emission measurements and reduction of emission using aftertreatment system, CO2 capture (DAC using moisture swing adsorption technique)



**Tobias Block**  
Ph.D.,  
Chief of Strategy,  
eFuel Alliance e.V.,  
EU

**Subject is to be announced**  
(about eFuels)

## Career

Dr. Tobias Block is working for the eFuel Alliance as Chief of Strategy. In his leadership position he coordinates the political communication of more than 180 alliance members worldwide towards the European Union, in an effort to include eFuels in all major political regulations concerning renewable energy.

## Education

Ph.D. in Management

## Work experience

2013 joined Audi AG  
2013 - 2016 Ph.D. Scholar, Economic optimization of the first, industrial scaled power-to-gas plant, Audi AG  
2016 - 2018 Executive Management Assistant, Audi AG  
2018 - 2021 Coordinator Renewable Fuels, Verband der Automobilindustrie (VDA) e.V. (German Automobile Association)  
2021 - Present Chief of Strategy, eFuel Alliance e.V.  
2021 - Present Senior Consultant Public Affairs, Strategy and Communication, von Beust & Coll Consulting

# Plenary Session



**Shun Egusa**

Guest Professor,  
Research Organization  
for Nano & Life  
Innovation,  
Waseda University,  
Japan

**Subject is to be announced  
(about Batteries)**

## Career

1985 Completion of doctor's degree, polymer science, Kyoto University  
Joined R&D Center of Toshiba Co.  
1997-2001 Deputy MD of Toshiba Cambridge Research Centre Co.  
2007 Head of Saku/Kashiwazaki factory, Battery business division, Toshiba Co.  
2014 VP of battery business division  
2020 Director & VP of battery business division  
2022 Retired from Toshiba Co.  
Guest Professor of Waseda University  
Outside director of Suzuki Motor Co.

## Research Fields

Specializes in lithium-ion battery industry and related technologies, and energy application fields of storage batteries.



**Nuwong Chollacoop**

Ph.D.,  
Director of Low Carbon  
Energy Research Group,  
National Energy  
Technology Center  
(ENTEC), Thailand

**Subject is to be announced  
(about Biofuels)**

## Career

Since graduation from Massachusetts Institute of Technology in 2004, Dr. Chollacoop has worked at National Science and Technology Development Agency (NSTDA) on transport biofuel until 2009, where he was awarded Green Talents 2009 by Federal Ministry of Education and Research (BMBF), Germany. In 2018, his research on sustainable mobility with Office of Transport and Traffic Policy and Planning has contributed to GHG emission reduction target in transport sector of Thailand National Determined Contribution (NDC) for COP21 submission. In addition, he was a founding member of Electric Vehicle Association of Thailand in 2015 and has served as a committee till now.

## Research Fields

Sustainable mobility, Sustainable biofuel, Energy demand modelling, Energy resilience

# Exhibition & Poster Session

## Exhibition

**Period: November 5, 2024, through November 7, 2024**

**Place: Palladium Hall B**

The technical exhibition offers an excellent showcase for small power source manufacturers as well as related component & equipment suppliers, measurement instruments and system providers in the peripheral industries in exchange of technological opinions and ideas with the researchers and engineers who mainly present research papers or support research work.

## Opening Hours

November 5, 2024 10:00 to 17:00 hrs.

November 6, 2024 9:30 to 17:00 hrs.

November 7, 2024 9:30 to 13:00 hrs.

## Application for an Exhibit Space Reservation and Fee

@ THB 40,000 (Tax is included)

The application due is August 31, 2024.

Please find more information at the following SETC web site: <http://www.setc-jsae.com/>



## Poster Session

**Period: November 5, 2024 through November 7, 2024**

**Place: Palladium Hall B**

For academia, the poster session is aimed at undergraduate and graduate university students who would like to expose their research activities to the participants of the conference. A short oral presentation by a student will be requested to evaluate for an award.

For companies and institutes, the poster session is also aimed to promote the challenging exploratory study which does not have enough data but is innovative.

## Opening Hours

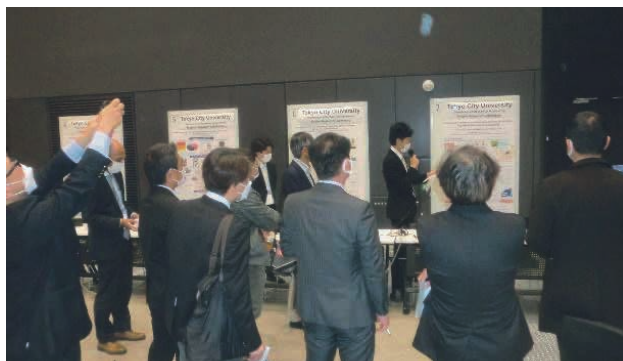
November 5, 2024 10:00 to 17:00 hrs.

November 6, 2024 10:00 to 17:00 hrs.

November 7, 2024 10:00 to 12:00 hrs.

## Application for Poster Session

Free participation, but presenters must register to attend SETC2024. The details are announced at the SETC web site: <http://www.setc-jsae.com/>





# Awards & Closing Ceremony

**Date: November 7, 2024**

**Time: 13:00 - 14:00 hrs. (Tentative)**

**Place: Palladium Hall, 10th floor**

The ceremony will begin by the conference summary, and the announcement of each prize awardees will follow.

## The Summary of the Conference

Keisuke Namekawa (JSAE TC chair) will announce the summary at the beginning of the ceremony.

## Awards

Awardees will be announced and given certificates in recognition of:

- High Quality Paper Awards
- The Best Paper Award
- High Quality Presentation Awards for Technical session
- High Quality Presentation Awards for New product technology session
- The Best Poster Award
- The Best Collegiate Event Award
- Thai Award



A representative of SAE International will announce and introduce the next SETC to be held in Italy.

## Farewell Remarks from JSAE

Minoru Iida (JSAE OC chair) will make farewell remarks at the end of the ceremony.

## Farewell Remarks from Thailand

A representative of Adisak Rohitasune (President TSAE) will make farewell remarks at the end of the ceremony.

# Reception & Banquet

**Welcome Reception** Free of charge (for all registered attendees)

**Date:** November 5, 2024

**Time:** 18:30 - 21:00 hrs.

**Place:** Mayfair Ballroom A 11th Floor

This welcome reception is an excellent opportunity to get together and mingle with your friends spending the night of the conference.

The Berkeley Hotel Pratunam located in the heart of Bangkok on Ratchaprarop Road in the Pratunam area, Ratcathewi district. The welcome reception will be served at Mayfair ballroom A on the 11th floor of the hotel.

During the reception, we will provide a casual time of free discussion and networking among participant of the conference.



**Banquet** Attendance Fee: THB2,000

**Date:** November 6, 2024

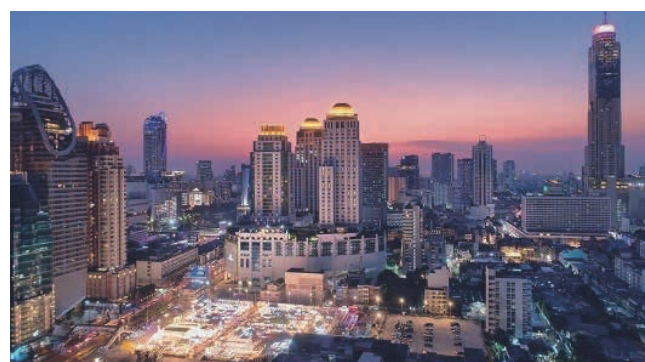
**Time:** 18:30 - 21:00 hrs.

**Place:** Mayfair Ballroom A 11th Floor

This banquet is an excellent opportunity to get together and mingle with your friends spending the night of the conference.

During the Banquet, the guests can enjoy Thai traditional dance (Ram Thai) during the banquet. The dance contributes to the culture of a place or a community and some of the dances are intense and powerful while some are grateful and warm. We hope it would be a memorable moment for all of the guests.

Please apply for banquet attendance ticket when register online. **On-site application will not be taken unless there is any cancellation.**



# Technical Sessions

Tentative session timetable will be available in mid-September, 2024 from the following website.

<http://www.setc-jsae.com/>

**Note:** Papers published in the program may be rejected depending on the reviewed results.

## Advanced Combustion

( As of Apr. 9, 2024 )

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Akira Iijima (Nihon University), Tatsuya Kuboyama (Chiba University), Satoshi Takayama (SUZUKI MOTOR CORPORATION), Simona Silvia Merola (STEMS-CNR)

20249008	<b>Timing and Behavior of Autoignition in Cylinder on LSPI of Supercharged SI Engine</b> Takaya Omori, Junya Tanaka (Kogakuin University)
20249022	<b>Effect of Ignition Position on Lean Limit in Prechamber Ignition Combustion</b> Takeru Onuma, Hiroto Yamada, Taisei Ugajin, Kaito Shinozaki, Ryota Tahara, Akira Iijima (Nihon University)
20249023	<b>Study on the Optimal Pre-Chamber Geometry for Active Pre-Chamber Gas Engines</b> Kotaro Yasuda, Yudai Yamasaki (The University of Tokyo), Takahiro Sako (Osaka Gas Co., Ltd.) Kenta Suzuki (Isuzu Motors Limited)
20249044	<b>Enhancing Low Temperature Lean Combustion of CH<sub>4</sub>-H<sub>2</sub> Blends Through a Prechamber Equipped Engine</b> Francesco Balduzzi, Giovanni Ferrara (University of Florence), Silvana Di Iorio, Paolo Sementa (STEMS - CNR)
20249063	<b>Detailed Approach for Pre-Chamber Heat Release Analysis for the HSASI Pre-Chamber Spark Plug Using a Pressure Sensor Glow Plug</b> Sascha Holzberger, Maurice Kettner (Karlsruhe University of Applied Sciences), Roland Kirchberger (Graz University of Technology)
20249079	<b>Numerical Studies on the Relation Between the Multiple Auto-Ignition and Pressure Wave in the Premixed Charge</b> Kenji Yoshida, Kota Iizumi (Hiroshima Institute of Technology)
20249094	<b>Research on the Combustion Characteristics of Port Injection Hydrogen Engines for Motorcycles</b> Haruaki Suzuki (SUZUKI MOTOR CORPORATION)
20249095	<b>Simultaneous Direct-photography of Flame Propagation inside Pre-Chamber and Main-Chamber of Gasoline Engine with Passive Pre-Chamber System</b> Yasuo Moriyoshi, Tatsuya Kuboyama (Chiba University), Satoshi Hokimoto (Sustainable Engine Research Center Co.), Shuichi Egashira, Yoshitaka Nagai (Yamaha Motor Co., Ltd.)
20249104	<b>Improvement of Lean Burn Characteristics with Ozone Addition in a Diesel Micro-Pilot Natural Gas Engine</b> Yoshimitsu Kobashi, Shoki Miyata, Nobuyuki Kawahara (Okayama University)
20249108	<b>Effects of Hydrogen Addition on Spark Knock Suppression Under High Engine Speed and Boosted Conditions</b> Jun Goto (Yamaha Motor Co., Ltd.), Yoshito Ueno (Hokkaido University), Yoshimitsu Kobashi (Okayama University), Gen Shibata, Hideyuki Ogawa (Hokkaido University), Kentaro Kojima (Yamaha Motor Co., Ltd.)
20249119	<b>The Similarity Study of the Transient Heat Transfer of Impinging Flames Under CI Engine-like Conditions</b> Jiale Cao, Tie Li, Run Chen, Shiyan Li, Xinyi Zhou, Xingyu Xu (Shanghai Jiao Tong University)
20249120	<b>Heat Transfer Characteristics of Lean Methane Flame in the Region near the Wall Boundary Layer</b> Xuefeng Xue, Run Chen, Tie Li (Shanghai Jiao Tong University)

## Renewable Energy and Alternative Fuels

( As of Apr. 2, 2024 )

Organizers: Toru Nakazono (LEMA/YANMAR HOLDINGS CO., LTD.), Yuji Araki (Yamaha Motor Co., Ltd.), Paul Richards (Consultant)

20249010	<b>Evaluation and Visualization of Surfactant Effect on Single Emulsified Fuel Droplet for Diesel Engine</b> Yuta Kurahashi, Hiromu Katsuki, Junya Tanaka (Kogakuin University)
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# Technical Sessions

## Renewable Energy and Alternative Fuels (Continued)

20249050	<b>Experimental Investigation of n-Heptane/Ethanol Blended Fuels on Auto-Ignition and Flame Propagation in High Temperature/Pressure Constant Volume Combustion Vessel</b> Tokua Tateishi, Riki Yamaguchi (Hiroshima University), Takaya Hara, Yuya Honda, Michiharu Kawano, (Mazda Motor Corporation), Hiroshi Terashima (Hokkaido University), Daisuke Shimokuri (Hiroshima University)
20249057	<b>Characterization of TCR-Diesel Injection and Ignition in Comparison to Conventional Diesel Fuels</b> Jan Seeger, Marco Taschek (OTH Amberg-Weiden), Lukas Strauss, Michael Wensing (FAU Erlangen-Nuernberg)
20249060	<b>Experimental Investigation for the Effect of Cavity Geometry on the Flame Propagation and Auto-Ignition in RCM</b> Riki Yamaguchi, Daigo Esaki, Tokua Tateishi, Ali Hassan Osaf (Hiroshima University), Takaya Hara, Tadashi Tadokoro, Michiharu Kawano (Mazda Motor Corporation), Tomoaki Yatsufusa, (Hiroshima Institute of Technology), Daisuke Shimokuri (Hiroshima University), Yuya Honda (Mazda Motor Corporation), Hiroshi Terashima (Hokkaido University)
20249065	<b>Experimental Investigation of a Hydrogen Fueled Natural Gas Engine and Ion Current Measurement for Combustion Diagnostics in Pure Hydrogen Operation</b> Naqib Salim, Youssef Beltaifa, Maurice Kettner (Karlsruhe University of Applied Sciences), Oliver Loose, Tycho Weissgerber (Weissgerber Engineering GmbH)
20249068	<b>Numerical Investigation of Electrolyte Feed System Designs at the Stack Level of Vanadium Redox Flow Batteries</b> Patcharawat Charoen-amornkitt, Poramet Aiemsathit (King Mongkut's University of Technology Thonburi), Takahiro Suzuki, Shohji Tsushima (Osaka University), Nut Suwanpakdee, (King Mongkut's University of Technology Thonburi)
20249069	<b>Local and Global Entropy Generation of Topographically Optimized Porous Reactors in Reaction-Diffusion Systems Considering Coupling Effects Between Heat and Mass Transfer</b> Patcharawat Charoen-amornkitt, Mengly Long (King Mongkut's University of Technology Thonburi), Shohji Tsushima, Takahiro Suzuki, Mehrzad Alizadeh, (Osaka University), Rotanak Visal Sok Tep (King Mongkut's University of Technology Thonburi)
20249070	<b>Impacts of Pulsating Flow on Topologically Optimized Porous Reactors in Convection-Diffusion-Reaction Systems</b> Patcharawat Charoen-amornkitt (King Mongkut's University of Technology Thonburi), Mehrzad Alizadeh, Takahiro Suzuki, Shohji Tsushima (Osaka University), Mengly Long (King Mongkut's University of Technology Thonburi)
20249085	<b>Optimal Porous Electrode Structures for Various Depth of Discharge in All-Vanadium Redox Flow Batteries</b> Patcharawat Charoen-amornkitt, Poramet Aiemsathit (King Mongkut's University of Technology Thonburi), Pengfei Sun, Mehrzad Alizadeh (Osaka University), Yossapong Laoonual (King Mongkut's University of Technology Thonburi), Takahiro Suzuki, Shohji Tsushima (Osaka University)
20249086	<b>Multi-Objective Optimization of Material Distribution in the Anode Catalyst Layer for Proton Exchange Membrane Water Electrolyzer Applications</b> Patcharawat Charoen-amornkitt, Peerapat Orncompa, Phonlakrit Passakornjaras (King Mongkut's University of Technology Thonburi), Mehrzad Alizadeh, Takahiro Suzuki, Shohji Tsushima (Osaka University)
20249089	<b>Effects of Solid-Electrolyte Interphase Growth on Electrochemical Impedance Spectra of Lithium-Ion Batteries</b> Patcharawat Charoen-amornkitt, Vikrom Kiniman, Kotchakarn Nantasaksiri (King Mongkut's University of Technology Thonburi)

# Technical Sessions

## Renewable Energy and Alternative Fuels (Continued)

20249101	<b>Additive Manufacturing of Poly (Vinyl Alcohol)/Alginate-SPEEK Membrane for Water Electrolyzer Application</b> Patcharawat Charoen-amornkitt, Jirawong Prappajit (King Mongkut's University of Technology Thonburi), Nuttapol Risangud, Krisda Tapracharoen (National Metal and Materials Technology Center)
20249111	<b>Effects of CO<sub>2</sub> Concentration on Combustion Characteristics of Compressed Biomethane Gas</b> Takuma Kobayashi (Waseda University)
20249117	<b>Experimental Study of Pre-Chamber Hydrogen Flame Jet Ignition of Ammonia/Air Mixture in Constant Volume Combustion Chamber</b> Shuo Yin, Jiangping Tian, Zechuan Cui, Xiaolei Zhang, Mingyuan Ye, Deyuan Zhu, Tiancheng Xu, Kaile Wei, Keiya Nishida (Dalian University of Technology)
20249118	<b>Experimental Study on Thermo-Catalytic Ammonia Decomposition into Hydrogen</b> Ze Li, Tie Li (Shanghai Jiao Tong University)

## Diesel Engine

Organizers: Koji Yoshida (Nihon University), Tadao Okazaki (LEMA/KUBOTA Corporation), Tomoaki Yatsufusa (Hiroshima Institute of Technology), Paul Litke (US Air Force Research Laboratory)

20249009	<b>Finite Element Analysis and Test Validation of New Cummins Agricultural Structural Engine</b> Arun Jyoti Pathak, Naval Gupta (Cummins Technical Center, India), Marcel Schubert (Cummins Inc., Darlington)
20249116	<b>Development of 13.4kW Horizontal Water-Cooled Diesel Engine- Improvement of Fuel Efficiency and Emission Performance</b> Kenta Shiomi (KUBOTA Corporation)

## Emission and Environmental Impacts

( As of Apr. 2, 2024 )

Organizers: Tadao Okazaki (LEMA/KUBOTA Corporation), Leonid Tartakovsky (Technion - Israel Institute of Technology)

20249004	<b>Coupled Analysis of First Principle Calculation and Chemical-kinetics Simulation to Predict the Activity of Three Way Catalyst</b> Kazuya Miura (SUZUKI MOTOR CORPORATION), Hiroki Kusaba, Tomoya Miyoshi (Kumamoto University), Hiroshi Yoshida (Kanazawa University), Hiroyuki Tsuchizaki (SUZUKI MOTOR CORPORATION), Masato Machida (Kumamoto University)
20249014	<b>Viscous Fan Clutch Characterization and Testing to Reduce Vehicle Noise and Improve Fuel Efficiency</b> Nalavadath Kiran (Ashok Leyland Ltd)
20249016	<b>Investigation on Degradation Process of PdRuIr/CZ "Pseudo-Rh" Catalysts used for Motorcycles</b> Takuya Motegi, Shunya Tatara, Shunpei Takamoto, Kosuke Doi (Yamaha Motor Co., Ltd.)
20249025	<b>Experimental Study of Port Water Injection System on Single Cylinder Diesel Engine Performance and Exhaust Emission</b> Kaleemuddin Mohiuddin Syed, Sandip Chaudhari, Girish Khairnar, Rahul Katariya, Pranjal Jagtap, Vikram Bhoite (Greaves Cotton Limited)
20249041	<b>Estimation Method of Life Cycle Greenhouse Gas Emissions of Motorcycle Applicable from Individual Unit to Sales Volume</b> Yuichi Mori, Hirotaka Kawatsu, Kazuhiko Tanaka, Takumi Yamaguchi, Toshiki Aoki, Ryuta Niimura (Honda Motor Co., Ltd.)
20249081	<b>Visualization of Atomized Droplet Behavior and Distribution Under Two-Layer Multiphase Flow in a Urea SCR Systems</b> Joe Ono, Masayuki Ochiai, Tetsuo Nohara (Tokai University)



# Technical Sessions

## Emission and Environmental Impacts (Continued)

20249097	<b>Development of NOx Storage Catalyst and Investigation of Deterioration Mechanism for Small Powertrains</b> Fumiya Nakano, Yusuke Koito (Umicore Shokubai Japan Co., Ltd.)
20249113	<b>Evaluation of Portable Emission Measurement Systems (PEMS) Accuracy by Simultaneous Measurement of PEMS and Laboratory-based Analyzers</b> Masahiro Matsuoka, Hiroshi Hirai, Takayuki Ito (Japan Automobile Research Institute)

## Engine Components and Fuel Supply Systems

( As of Apr. 2, 2024 )

Organizers: Wataru Yamamoto (Kawasaki Motors, Ltd.), Michihisa Nakagawa (Kawasaki Motors, Ltd.) Tatsuya Kuboyama (Chiba University), Adrian Irimescu (STEMS-CNR)

20249076	<b>Study on Flex Fuel Compatible Coatings for Automotive Fuel Tank</b> Dinesh Babu Pandi, Gomathy Priya Shanmugam, Arun Nagarkatti, Manish Gopal, Prathap Anbalagan (TVS Motor Company Limited)
20249105	<b>Virtual Encoder for Achieving Crank Angle Resolution Measurements of In-Cylinder Pressure in Small Engines by Using Time Based Data Acquisition</b> Adrian Irimescu, Giovanni Cecere, Simona Silvia Merola, Bianca Maria Vaglieco (STEMS-CNR)
20249109	<b>CFD Analysis of Pintle-Nozzle Spray for Swirl Chamber Type Small Diesel Engine -Application of Hole-Nozzle Atomization Model to Pintle-Nozzle-</b> Tadao Okazaki, Tsukasa Fujiwara (KUBOTA corporation)

## Powertrain Controls

( As of Apr. 2, 2024 )

Organizers: Shigeho Sakoda (Yamaha Motor Co., Ltd.), Mikael Bergman (KTH Royal Institute of Technology)

20249019	<b>Development of Cylinder Deactivation Control During Idle for Conventional Engines</b> Shoji Yanagida (SUZUKI MOTOR CORPORATION)
20249024	<b>Model Based ECU Validation for Small Motorcycles</b> Hirofumi Fujiwara, Atsushi Maruyama (Honda Motor Co., Ltd.)
20249061	<b>Trends in the Automated and Automatic Transmission System for Two Wheeled Vehicles</b> Prantik Kundu, Ajay Shetty, Deepak Venkatesh Balakrishna (Robert Bosch India)
20249078	<b>Changes of Shifting Rate of Metal V-Belt Type CVT During Speed Up/Down Under Quasi-Idle Loading Condition</b> Yuichirou Mori, Kazuya Okubo, Kiyotaka Obunai (Doshisha University)
20249103	<b>Real-Time Control of Hydrogen Injection in a PFI Internal Combustion Engine Based on an Online Physics-Based Model for Estimating Trapped Air and EGR</b> Francesco Balduzzi, Claudio Galli, Marco Ciampolini, Luca Romani, Giovanni Ferrara (University of Florence), Giovanni Vichi (YANMAR R&D EUROPE)

## Engine Technology

( As of Apr. 2, 2024 )

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Masahito Saitou (Kawasaki Heavy Industries, Ltd.), Shogo Tadakuma (SUZUKI MOTOR CORPORATION), Kensuke Suzuki (SUZUKI MOTOR CORPORATION), Takuya Warashina (Honda Motor Co., Ltd.), Arun Ravindran (Cummins)

20249033	<b>Investigation on the Applicability of Passive Type Pre-Chamber Combustion with One Port Fuel Injection System to Small Gasoline Engines</b> Yoshinori Nakao, Yota Sakurai, Atsushi Hisano, Masahito Saitou (Kawasaki Heavy Industries, Ltd.), Tomoharu Suzuki (Kawasaki Motors, Ltd.)
20249058	<b>Studying the Lean Burn Operation in Two-Wheelers to Increase Fuel Efficiency and Investigate the Use of Lean NOx Trap Catalyst (LNT) for Lean Burn System</b> Karthikeyan Somasundaram, Purushothaman Sivaji (Robert Bosch India)



# Technical Sessions

## Engine Technology(Continued)

20249075	<b>Performance Testing of Compressed Air System for Engine Used in FSAE</b> Phatsakon Phan-ophat, Theerapol Ratsatit (Thai-Nichi Institute of Technology)
20249096	<b>Development of CO2 Emission Reduction Technology for Sport Motorcycles</b> Naoki Makita, Masaki Torigoshi, Toshihiko Takahashi, Hiroki Takase (Yamaha Motor Co., Ltd.)
20249106	<b>Study on a Novel Vibration-Free I.C. Piston Engine Based on "Basement and Radial" Configuration Design (Firing Engine Operation and Design Theory for the Compact Engine)</b> Yojiro Ishino, Haruki Ushimaru, Gen Takase, Momoka Komeda, Takuma Oikawa (Nagoya Institute of Technology)

## Hybrid and Electric Drives

( As of Apr. 2, 2024 )

Organizers: Yasuyuki Muramatsu (Yamaha Motor Co., Ltd.), Kai W. Beck (Andreas STIHL AG & Co. KG)

20249007	<b>A Study on Optimal Combinations of Winding and Cooling Methods for Downsizing Power Units in Two-Wheeled Vehicles</b> Ryota Otaki, Tsukasa Shimizu (Yamaha Motor Co., Ltd.)
20249011	<b>Design, Integration and Testing of a 10 kW Hybrid-Electric Powertrain for Fixed-Wing Vtol Aircraft</b> Yanan Li, Haiwang Li, Zhi Tao, Gang Xie, Mingxing Yu (Beihang University)
20249027	<b>Operating Characteristics of an Automotive Adjustable-Field Permanent Magnet Motors with 3D Magnetic Paths and Asymmetric Magnet Arrangement</b> Yutaro Hiyoshi (Yamaha Motor Co., Ltd.) Toshihiko Noguchi, Kotaro Doi (Shizuoka University)
20249029	<b>A Power Split eCVT Hybrid for Sustainable Urban Mobility</b> Wolfgang Johann Schoeffmann, Gernot Fuckar, Manuel Gruber, Christian Hubmann (AVL List GmbH)
20249062	<b>Traction Voltage Level in Two-Wheelers: Considerations on Safety and Performance</b> Stefan Schmitt (Vitesco Technologies France)
20249066	<b>Virtual Calibration Approach to the Development of Control Systems and Strategies for Hybrid L-Category Vehicles</b> Christian Antoniutti, David Sweet, Sandra Hounsham (Ricardo UK)
20249067	<b>Development of the Mild Hybrid System for Off-Road Machinery</b> Kazuaki Koyama (KUBOTA Corporation)
20249077	<b>Energy Consumption Analysis for EV Taxi Estimations Based on Real-World Driving Patterns in Bangkok, Thailand</b> Bongkotchaporn Duangsrikaew, Garavig Tanaksaranond, Chalermchon Satirapod (Chulalongkorn University), Chi-na Benyajati, Jiravan Mongkoltanatas (MTEC, National Science and Technology Development Agency)
20249102	<b>Thermal Management Strategies for Enhanced Performance and Component Longevity in an Electric Scooter</b> Thariq Ahmad S, Manish Garg, Gavhane Santosh Bhagawat, Poreddy Kambi Reddy (TVS Motor Company Limited)
20249107	<b>Assessing Lithium-Ion Battery Functionality Post-Thermal Management with Water Mist</b> Piyatida Trinuruk, Apiwit Jumnongjit, Pathomporn Patthathum (King Mongkut's University of Technology Thonburi)

# Technical Sessions

## Lubricants and Tribology

( As of Apr. 2, 2024 )

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Yuji Mihara (Tokyo City University), Marcus Gohl (APL Automobil-Prüftechnik Landau GmbH)

20249030	<b>Development of Pistons Suitable for Compact Air-Cooled Engines</b> Naoyuki Suda, Yoshinari Ninomiya, Taiki Hihara (SUZUKI MOTOR CORPORATION)
20249099	<b>Investigation on the Wear Regime of Plastic Gears Sliding Against Metal Gears.</b> Jimpei Yamamoto, Takaharu Suzuki, Natsuki Ako, Shinya Iwasaki, Hirotaka Kurita (Yamaha Motor Co., Ltd.)
20249100	<b>Development of a High-Frequency Measurement Apparatus for Evaluating Piston Friction in a Small Gasoline Engines</b> Riku Honda (Tokyo City University)

## Materials and Manufacturing

( As of Apr. 2, 2024 )

Organizers: Hirotaka Kurita (Yamaha Motor Co., Ltd.), Silvio Defanti (University of Modena & Reggio Emilia)

20249001	<b>Sustainable Manufacturing Process for Automotive Crankshafts</b> Dinesh Babu Pandi, Prathap Anbalagan, Arun Nagarkatti, Gomathy Priya Shanmugam (TVS Motor Company Limited)
20249006	<b>Study of Fe-Ni Alloy Plating in Magnetostrictive Torque Sensors</b> Hiromichi Ohnishi (Yamaha Motor Electronics Co., Ltd.)
20249020	<b>Dependency of Gear Honing Machine Processing Accuracy on Machine Vibration and The Vibration Reduction Considering Contribution</b> Hiroaki Hanioka, Yunosuke Ogawa, Junji Yoshida (Osaka Institute of Technology), Yoichi Onishi, Yasuhiro Kurokawa (Kanzaki Kogyukoki Mfg. Co., Ltd.)
20249026	<b>Effect of Mesopore Structure of Carbon Gel on Improving the Capacity of Electric Double-Layer Capacitors</b> Zairan Cheng (Yamaha Motor Co., Ltd.), Kiyoharu Nakagawa (Kansai University)
20249031	<b>Development of Heat-Treated High Pressure Die Cast Aluminium Cylinder Block</b> Dinesh Babu Pandi, Brahmadevan Padmarajan, Nagendra Kumar Dharmapuri, Prathap Anbalagan, Gomathy Priya Shanmugam (TVS Motor Company Limited)
20249040	<b>Development of Higher Clarity Injection Molded Windscreen for Motorcycles</b> Atsushi Yamada, Sakae Endo (Honda Motor Co., Ltd.)

## Measurement and Simulation

( As of Apr. 2, 2024 )

Organizers: Tadao Okazaki (LEMA/KUBOTA Corporation), Tomoaki Yatsufusa (Hiroshima Institute of Technology), Keisuke Ito (SUZUKI MOTOR CORPORATION), Stephan Schmidt (Graz University of Technology)

20249005	<b>Human Body Model on Multi-Body Dynamics Simulation of Motorcycle</b> Motohito Ueki (Yamaha Motor Co., Ltd.), Akinori Takayama (SOLIZE Corporation), Noboru Yabe (Yamaha Motor Co., Ltd.)
20249017	<b>A Concept for Functional Modelling of an E-Bike Power Train</b> Yannick Rauch, Reiner Kriesten (Karlsruhe University of Applied Sciences)
20249035	<b>Statistical Analysis of Data Acquired from Propagating Flames in Gasoline Engines Using a Multiple Ion Probe</b> Tomoaki Yatsufusa, Takehiro Okahira, Kohei Nagashige (Hiroshima Institute of Technology)

# Technical Sessions

## Measurement and Simulation(Continued)

20249036	<b>Representative Point of Measurement of Engine ECU and Effect of Vortices and Ambient Wall on Forced Air-Cooling</b> Jiajun Zhong, Kazuaki Inaba, Ryota Yamaguchi, Ryuta Yasui (Tokyo Institute of Technology), Masafumi Umeno, Takuya Shinoda (DENSO CORPORATION)
20249037	<b>Mixed Wettability Influence on Water Droplet Behaviour in a PEM Fuel Cell Channel</b> Simona Silvia Merola, Christian Antetomaso, Adrian Irimescu, Bianca Maria Vaglieco (CNR - STIMS), Elio Jannelli (The University of Naples Parthenope)
20249038	<b>Prediction Method of Strength Robustness Affected by Arc Welding Sectional Dimensions</b> Yusuke Hada (SUZUKI MOTOR CORPORATION)
20249045	<b>Safety Critical DC Series Arc Detection and Measurement in Medium and High Voltage Systems</b> Alexander Winkler (University of Applied Sciences Upper Austria)
20249055	<b>Pursuit of Realistic Vehicle Acceleration Sounds Based on Discomfort Index</b> Shunsuke Ishimitsu, Misaki Nitta (Hiroshima City University), Satoshi Fujikawa, Kiyoaki Iwata, Mayuko Niimi, Masakazu Kikuchi (Mazda Motor Corporation), Mitsunori Matsumoto (Hiroshima City University)
20249071	<b>Fuel Film Measurement in a SI Gasoline Engine Using a Newly Developed MEMS Sensor</b> Tatsuya Kuboyama (Chiba University)
20249072	<b>Statistical Modeling-Based Approach for Exhaust Mass Flow Calculation in Motorcycles</b> Sebastian Schurl (Graz University of Technology), Stefan Sturm (FVT mbH), Roland Kirchberger (Graz University of Technology)
20249073	<b>RDE Methodology Development for Motorcycle Emissions Assessment</b> Sebastian Schurl, Roland Kirchberger (Graz University of Technology)
20249074	<b>Validation of Thermo-Diffusive Instability Correction in a 3D-CFD Framework for Hydrogen Combustion in ICE</b> Stefano Sfriso, Fabio Berni, Sebastiano Breda, Stefano Fontanesi (Università degli Studi di Modena e Reggio Emilia), Caio Ramalho Leite, Pierre Brequigny, Fabrice Foucher (Université d'Orléan)
20249083	<b>Dynamic Analysis of Intake and Exhaust Valve Motion in a High-Performance 4-Stroke Engine, Part1 - Experimental Measurement of Valve Motion Using a High-Frequency Laser Sensor</b> Luca Romani, Niccolò Grilli, Sandro Raspanti, Giovanni Ferrara (University of Florence), Paolo Trassi, Jacopo Fiaschi (Betamotor S.p.a.), Lorenzo Bosi (University of Florence)
20249084	<b>Dynamic Analysis of Intake and Exhaust Valve Motion in a High-Performance 4-Stroke Engine, Part 2 - Development of a 1D Numerical Model for the Simulation of the Valvetrain</b> Luca Romani, Sandro Raspanti, Giovanni Ferrara (University of Florence), Paolo Trassi (Betamotor S.p.a.), Marco Tarchiani (University of Florence)
20249115	<b>A methodical Concept Study and Optimization of the Drivetrain for Light Commercial Vehicle Applications</b> Jürgen Tromayer, Thomas Königshofer (Graz University of Technology)

# Technical Sessions

## NVH Technology

( As of Apr. 2, 2024 )

Organizers: Gaku Naoe (Honda Motor Co., Ltd.), Keisuke Namekawa (SUZUKI MOTOR CORPORATION),  
Stephan Schmidt (Graz University of Technology)

20249015	<b>Identification of Input Force and Contribution for Electric Power Unit Utilizing Virtual Point</b> Ryoma Kubo, Junji Yoshida, Kenta Hara (Osaka Institute of Technology)
20249032	<b>Impact of Proximity of Order Components on Auditory Perception of Engine Knocking Sound</b> Ryuhei Suzuki, Shunsuke Ishimitsu, Misaki Nitta, Mika Sakakibara (Hiroshima City University)
20249059	<b>Research on Intake Sound Tuning Method by Valve Timing Modification for Enhance Sound Quality in V6 Outboard Engine</b> Hidetaka Muramatsu (Honda R&D Co., Ltd.), Taro Matsumoto (Honda Motor Co., Ltd.), Gaku Naoe (Honda Motor Co., Ltd.), Takashi Kondo (Honda R&D Co., Ltd.)
20249064	<b>Assessment of Annoyance Caused by Knocking Sounds with Order Components</b> Tomoyuki Hakozaiki, Shunsuke Ishimitsu (Hiroshima City University), Kiyooki Iwata, Satoshi Fujikawa, Mitsunori Matsumoto, Masakazu Kikuchi, Naoki Kishikawa (Mazda Motor Corporation)
20249093	<b>Examination of the Physical Quantity Corelated Human Sensory for Vibration Caused Engine Downspeeding</b> Ryuta Ishizaki, Kazuya Sakurai (Yamaha Motor Co., Ltd.)

## Two Stroke Engine

( As of Apr. 2, 2024 )

Organizers: Akira Iijima (Nihon University), Giovanni Ferrara (University of Florence)

20249018	<b>Analysis of the Air Intake Process of a Two-Stroke Twin-Cylinder Engine</b> Xicheng Yan, Junjie Zhang (Tianjin Internal Combustion Engine Research Institute)
20249039	<b>Basic Investigation of Thermodynamic Effects on a Hydrogen Two-Stroke Engine</b> Terutaka Yasuda (Maruyama Mfg. Co., Inc.)
20249047	<b>Numerical and Experimental Optimization of the Injection System on a Small 2-Stroke Hydrogen Engine</b> Stefano Caprioli (Università degli Studi di Modena e Reggio Emilia)
20249054	<b>DoE Based Numerical Optimization of Intake and Exhaust Port Geometry of a Small Opposed-Piston 2-Stroke (OP2S) Hydrogen Engine</b> Saurabh Singh, Prasad Boggavarapu, Himabindu M., Ravikrishna R. V. (Indian Institute of Science, Bengaluru)
20249082	<b>New High Efficiency 2-Stroke Engine Combining Stratified-Scavenging with STIHL Fuel Injection Technology</b> Tilman Seidel, Robert Köhli, Jan Pawlowski, Christian Lindauer, Ulrich Keck, Kai Willi Beck, Stefan Merkle (ANDREAS STIHL AG & Co. KG)
20249112	<b>Research on Basic Characteristics of a Two-Stroke Opposed Piston Engine</b> Shumpei Fukushima, Ryota Uehara, Yoshiaki Hayashi, Ryo Igarashi, Kazuho Tokita, Akira Iijima (Nihon University)

# Technical Sessions

## Vehicle Dynamics and Safety

( As of Apr. 2, 2024 )

Organizers: Shingo Ueda (Honda Motor Co., Ltd.), Hisayuki Sugita (SUZUKI MOTOR CORPORATION), Alexander Winkler (University of Applied Sciences Upper Austria)

20249012	<b>Estimation of Loads and Frame Deformation on Motorcycle Handling</b> Kazunobu Sakamoto (Yamaha Motor Co., Ltd.)
20249013	<b>Necessity of Body Torsional Rigidity of Personal Mobility Vehicles (PMVs) with an Inward Tilting Mechanism</b> Tetsunori Haraguchi (Nagoya University), Tetsuya Kaneko (Osaka Sangyo University)
20249028	<b>Study on Motorcycle Rider Model Using Reinforcement Learning - Basic Research to Represent the Behavior According to the Rider Proficiency -</b> Yasuhiro Mitsuhashi (Inovaligo LLC), Hitoshi Takeshita (The MathWorks GK), Yoshitaka Momiyama, Noboru Yabe (Yamaha Motor Co., Ltd.)
20249034	<b>Analysis of Lane Departure Caused by Inadequate Motorcycle Driving Maneuvers Due to Road Alignment</b> Hiroshi Kuniyuki, So Takechi (Suwa University of Science)
20249043	<b>A Two-Step Approach for Tire Lateral Force Observation for Motorcycles</b> Alexander Winkler (University of Applied Sciences Upper Austria)
20249049	<b>Analysis of the Effect of Multiple Frame Flexibility on Weave Modes</b> Reiya Haraoka, Tsuyoshi Katayama, Takahiko Yoshino (Kurume Institute of Technology), Motohito Ueki, Noboru Yabe (Yamaha Motor Co., Ltd.)
20249056	<b>Analysis of Aerodynamic Characteristic Influences on Motorcycle High Speed Weave Mode</b> Tsuyoshi Katayama, Haraoka Reiya, Yoshino Takahiko (Kurume Institute of Technology)
20249080	<b>Dynamic Modeling of an Off-Road Vehicle with Whoops Behavior</b> Tsuyoshi Inoue, Haruto Ejiri, Akira Heya (Nagoya University), Masahiro Yoshida (Yamaha Motor Co., Ltd.)
20249092	<b>Investigating Severity of Nighttime Motorcycle Crashes in Thailand</b> Kunnawee Kaniitpong (Asian Institute of Technology)

## Vehicle Components

( As of Apr. 2, 2024 )

Organizers: Shingo Ueda (Honda Motor Co., Ltd.), Hisayuki Sugita (SUZUKI MOTOR CORPORATION), Jürgen Tromayer (Graz University of Technology)

20249046	<b>Fatigue Analysis of Motorcycle Rear Swing Arm on Different Road Surfaces</b> Yi-Hau Chiou, Hsiu-Ying Hwang, Liang-Yu Huang (National Taipei University of Technology)
20249051	<b>Dynamic Nonlinear Viscoelastic Measurements of Vehicle Seat Components for Ride Comfort Evaluation</b> Chihiro Kamio, Takao Yamaguchi, Shinichi Maruyama (Gunma University), Kazuto Hanawa (SUBARU CORPORATION and Gunma University), Tsutomu Iwase (SUBARU CORPORATION), Tatsuo Hayashi, Toshiharu Sato, Hajime Mogawa (NHK SPRING CO., LTD.)

## Data Driven Digitalization

( As of Apr. 22, 2024 )

Organizers: Shigeo Sakoda (Yamaha Motor Co., Ltd.), Bernard Geiger (Know-Center GmbH)

20249121	<b>Accelerating Battery Thermal Analysis by Integrating CFD simulation and Machine Learning techniques</b> Gurudevan Devarajan (Siemens Industry Software (India) Private Limited), Wei Zhou, Jiguang He (BMW Brilliance Automotive Ltd.), Lichao Ji (Siemens Industry Software (Beijing) Co., Ltd.), Ganesh Vaidyanathan (Siemens Industry Software (India) Private Limited), Jiao Wang (Siemens Industry Software (Shanghai) Co., Ltd.)
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Lever Assy  
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Bracket Motor  
Mounting



Cover Fan



Holder Fork Upper



Outlet Water



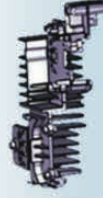
CHASSIS



Housing Clutch



Handle Seat



Heat Sink



Steel Bracket



Cover Clutch Housing



Cover Crank Case



Crank Case Stiffening



Bracket Motor



Case Transmission



Swing Arm



MS Rack



HSG EPS Torque Sensor



Propeller

# New Product Technology Session

The session called the "New Product Technology Session (NPTS)" has provided a forum for discussion from a technological perspective on the results of products and services as an outlet for technology since 2022, with the expectation that it will encourage further technological evolution and contribute to the promotion of related businesses.

NPTS will introduce a wide range of new products, services, manufacturing devices, development tools including software and other new items from technical perspective.

In the technical field handled by SETC, the various products and services are produced around the world every day, and the latest technologies are used to enhance customer value. This session will focus on the technologies that make them possible, and will show the superiority and novelty of functions, performance advantages, and value proposition related to the products and services. Leading to further technological evolution and value creation are expected through this session.

The proven venue layout in the "Co-location concept," holding this session in the same hall as the exhibition, will present the participants various opportunities to discuss the content of the presentations at the session while looking at the product and its catalog and even expanding human network.

## Venue Concept of the new product Technology Session



The scope covered in this session is as follows.

Technology presentation on

- products sold or shortly planned to be sold in the market.
- services provided or shortly planned to be provided in the market using the products.
- manufacturing devices of the products.
- development equipment of the products (e.g., measuring equipment).
- software for development or manufacturing of the products.

Please refer to the document uploaded at the SETC2024 web site (<https://www.setc-jsae.com/npts.html>) for more information.



# New Product Technology Session

## New Product Technology

( As of Apr. 9, 2024 )

Organizers: Gaku Naoe (Honda Motor Co., Ltd.), Yuji Araki (Yamaha Motor Co., Ltd.), Michihisa Nakagawa (Kawasaki Motors, Ltd.), Hiroya Ueda (Honda Motor Co., Ltd.)

NPT2024-001	<b>Introduction of a Front-Loading Method in the Development Stage of Outboard Engines</b> Masanori Kobayashi (APL Automotive Japan K.K.)
NPT2024-002	<b>2025 Model ROV RMAX</b> Daisuke Tanaka, Yuichi Ueki (Yamaha Motor Co., Ltd.)
NPT2024-003	<b>TBA</b> Daisuke Matsukawa, Keigo Yoshida, Shohei Urano, Kouki Tsuruda (Honda Motor Co., Ltd.)
NPT2024-004	<b>Application of Model Based Development of Noise Reduction for Outboard Motors</b> Kazuhiro Hara, Toru Takahashi (Yamaha Motor Co., Ltd.)
NPT2024-005	<b>TBA</b> Toshiki Shinohara (Honda Motor Co., Ltd.)
NPT2024-006	<b>TBA</b> Ratchawat Samdaeng (Honda R&D Southeast Asia (Thailand) Co., Ltd.)
NPT2024-007	<b>Optimization of Combustion and Conversion Efficiency in Spark-Ignited Engine Using Taguchi Methods Robust Optimization Technique for Flex Fuel Application</b> Balaji Vaidyanathan, Praveenkumar Arunkumar, Jayajothi Johnson Vedhanayagam, Manickam Murugesan, Palani Shunmugasundaram (TVS Motor Company Limited)
NPT2024-008	<b>Development of Electronically Controlled System for GSX-S1000GX</b> Keitaro Miyagawa (SUZUKI MOTOR CORPORATION)
NPT2024-009	<b>Development of Electrically Assisted Hose Carts for Firefighting</b> Yuki Mukai (Yamaha Motor Engineering Co., Ltd.)
NPT2024-010	<b>Integrated Next Generation Handlebar Module</b> Craig Workman (Brehmer GmbH & Co.)
NPT2024-011	<b>Development of New Power-Unit for Ninja 7 Hybrid as Strong-Hybrid Motorcycle</b> Tetsuji Yamamoto (Kawasaki Motors, Ltd.)
NPT2024-012	<b>Cool System, Lasting Power - an Outstanding E-Powertrain Meets MX Dirt Track</b> Thomas Arnold (IAV GmbH)
NPT2024-013	<b>48V Technology to Lower Emission in Diesel Engine Unburned Fuel (NOx)</b> Harmesh Kumar (Cummins Technical Center India)
NPT2024-014	<b>Advantages of the Features of a Small Gasoline Engine Driven Unmanned Helicopter for Forest DX Service "RINTO"</b> Jun Yajima, Kaoru Kato (Yamaha Motor Co., Ltd.)
NPT2024-015	<b>Improvement of 2.4L Diesel Engine "V2403" That Meets 2023 CARB Emission Regulation of Transport Refrigeration Units</b> Yuichi Tamaki (KUBOTA Corporation)
NPT2024-016	<b>Improvement of Corrosion Resistance of Engine Parts for New Outboard Motor by Anodizing Technology</b> Tomoya Matsubara (SUZUKI MOTOR CORPORATION)

Notes: The New Product Technology Session papers will NOT be published as JSAE/SAE papers and the paper numbers will be used only for paper identification and management.

The session timetable will be available in mid-September, 2024 from the following website.

<http://www.setc-jsae.com/>



NEW

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# About Bangkok

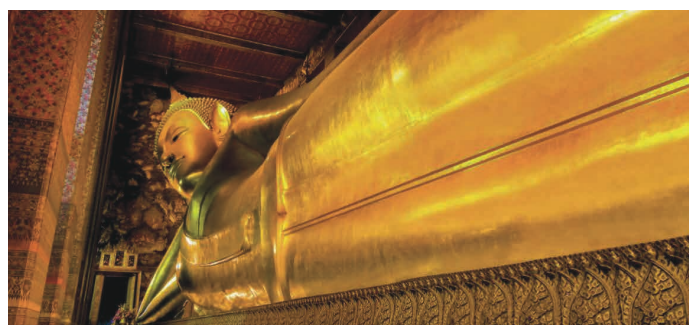
An increasing of tourists visiting Bangkok each year has proven that Bangkok is always a popular city for tourists.

For major tourist attractions in Bangkok, most of them are Historical sites or religious sites such as temples in Bangkok. There is a beautiful architecture, wall painting and also important in History, such as Wat Phra Sri Rattana satsadaram (Phra Kaeo), Wat Phra Chetuphon Wimon Mangkalaram (Wat Pho), Wat Arun Ratchawararam, Wat Sa Ket, and Phu Khao Thong (Golden Mountain), Wat Ratchanatdaram (Loha Prasat), Wat Traimit, Wat Benchamabophit, Wat Bowon Niwet Ratchawarawihan, Wat Suthat Thepwararam etc.

There are also other interesting places such as palaces, museums, parks, as well as various shopping centres in Bangkok. There are both chilling places like Chatuchak Weekend Market, Sampeng Market, Yaowarat and Phahurat night market or luxury level such as many leading department stores in all areas of Bangkok as well.

Bangkok began as a small trading centre and port community on the west bank of the Chao Phraya River some 200 years ago. Today, while the city is up to speed with modern times, the grandeur and glory of its illustrious past still prevails. Be it dazzling temples, spectacular palaces, a world-famous floating market or colourful Chinatown, each of these famous places has an intriguing story to tell.

**Wat Phra Kaeo** was constructed in 1784 and has been restored throughout every reign since the reign of King Rama I the Great to King Rama IX the Great. Inside the Ubosot and the balcony around the temple are very beautiful murals of “Ramakian”. Other interesting items in the temple include eight chedis, Phra Sri Rattana Chedi, replica of Angkor Wat, Prasat Phra Thep Bidon, etc.



**Wat Pho** Is located on Maha Rat Road next to the Grand Palace. It is a first class royal temple and is an ancient temple, which King Rama I the Great ordered to be built for monks to study Dharma. This is the temple of the reign of King Rama I the Great. During the reign of King Rama III, the King graciously renovated Wat Pho and brought academic texts in different fields to be inscribed around the temple in order to disseminate knowledge to the people. It is considered as the first university of Thailand.

**Phu Khao Thong** Is an ancient temple of the Ayutthaya period, which is a first-class royal temple of the Ratchawora Maha Wihaan class. Originally, it was known as Wat Sakae then later the whole temple was re-established in the reign of King Rama I the Great and given the new name of Wat Saket. On the top of Phu Khao Thong is the chedi that enshrines the Buddha's relics received from India, which were dug from the hill of the old chedi in Kapilavastu.



# About Bangkok

**Chao Phraya Sky Park** Is located in Wang Burapha Phirom Subdistrict. Originally, this area used to be the structure of the Lavalin Skytrain, which has been abandoned for more than 30 years. This park has some interesting items like the design of the pedestrian and bicycle path, a distance of 280 metres, to facilitate traffic between the two sides of the bridge.



**Khao San Road** Is a popular budget accommodation destination for international tourists and a meeting point for travellers from all over the world. There are many guest houses; therefore, it is convenient for accommodation.

**Asiatique the Riverfront** Is located on Charoen Krung Road and is a gigantic shopping venue on the bank of the Chao Phraya River. It modified the former port warehouse of the East Asiatic Company, and the colonial-style structure is according to the culture of the reign of King Rama V the Great. Factory District is a 100-year-old sawmill area decorated to be modern to make it a fashion store, both costumes and accessories. Waterfront District comprises restaurants in the atmosphere of the Chao Phraya River and a walkway along the Chao Phraya River, a distance of 100 metres to see the scenery like a panoramic view.



**Yaowarat Road** Is the largest Chinese community in Thailand. There are restaurants both inside buildings and set up along the road. In other words, there are all kinds of international dishes to choose from. In addition, Yaowarat Road is the venue for important Chinese festivals, e.g., Chinese New Year (during January) and the Vegetarian Festival (around October).

**Taling Chan Floating Market** Is located in front of the Taling Chan District Office and is a semi-rural floating market that perfectly combines waterfront life with nature. The interesting aspect is preserving and conveying the beautiful way of life of the agriculturists along the canal. The vendors rowing boats sell food and fruit around the pontoon and along the canal. There are also handicrafts with good craftsmanship from local wisdom, as well as marine tourism activities.



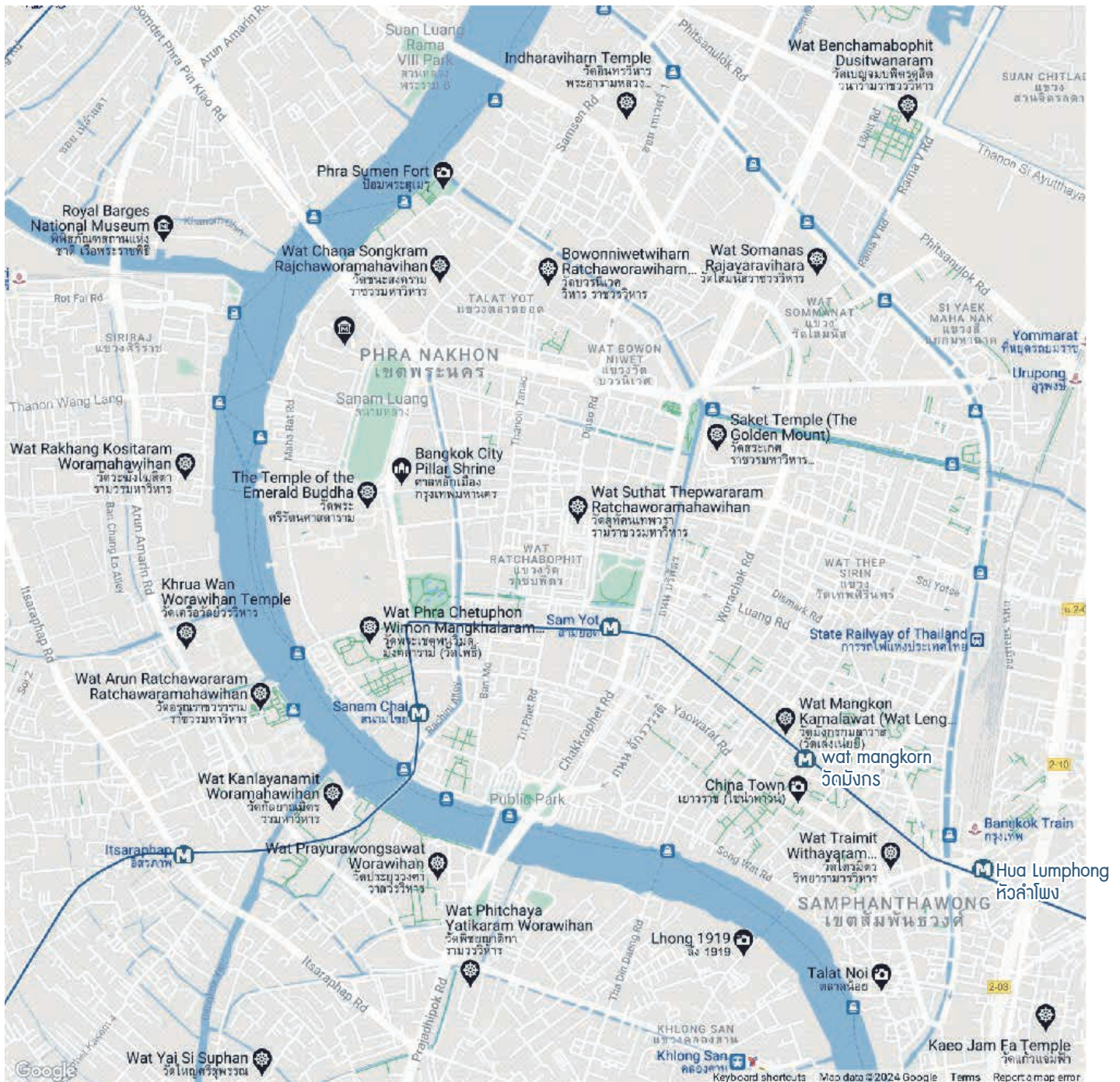
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# Useful Websites

Conference Information and Venue		
	SETC2024 website	<a href="https://www.setc-jsae.com/">https://www.setc-jsae.com/</a> <a href="https://tsae-conference.com/">https://tsae-conference.com/</a>
	The Berkeley Hotel Pratunam (Conference Venue, Banquet Venue)	<a href="https://berkeleypratunam.com/">https://berkeleypratunam.com/</a>
VISA and Immigration information		
	Thai E-Visa official website	<a href="https://thaievisa.go.th/">https://thaievisa.go.th/</a>
	Suvarnabhumi international airport	<a href="https://suvarnabhumi.airportthai.co.th/">https://suvarnabhumi.airportthai.co.th/</a>
	Don Mueang international airport	<a href="https://donmueang.airportthai.co.th/">https://donmueang.airportthai.co.th/</a>
Local transportation		
	BTS Sky Train	<a href="https://www.bts.co.th/eng/">https://www.bts.co.th/eng/</a>
	Bangkok MRT website (Metro)	<a href="https://metro.bemplc.co.th/?lang=en">https://metro.bemplc.co.th/?lang=en</a>
Factory Tour and Travel Information		
	Tourism Authority of Thailand	<a href="https://www.tourismthailand.org/home">https://www.tourismthailand.org/home</a>
	The Automotive and Tyre Testing, Research and Innovation Center (ATTRIC)	<a href="https://www.thaiauto.or.th/2020/about-us/download/ATTRIC_Profile2024.pdf">https://www.thaiauto.or.th/2020/about-us/download/ATTRIC_Profile2024.pdf</a>
	The Erawan Museum	<a href="https://www.erawanmuseum.com/en/#erawanmuseum">https://www.erawanmuseum.com/en/#erawanmuseum</a>

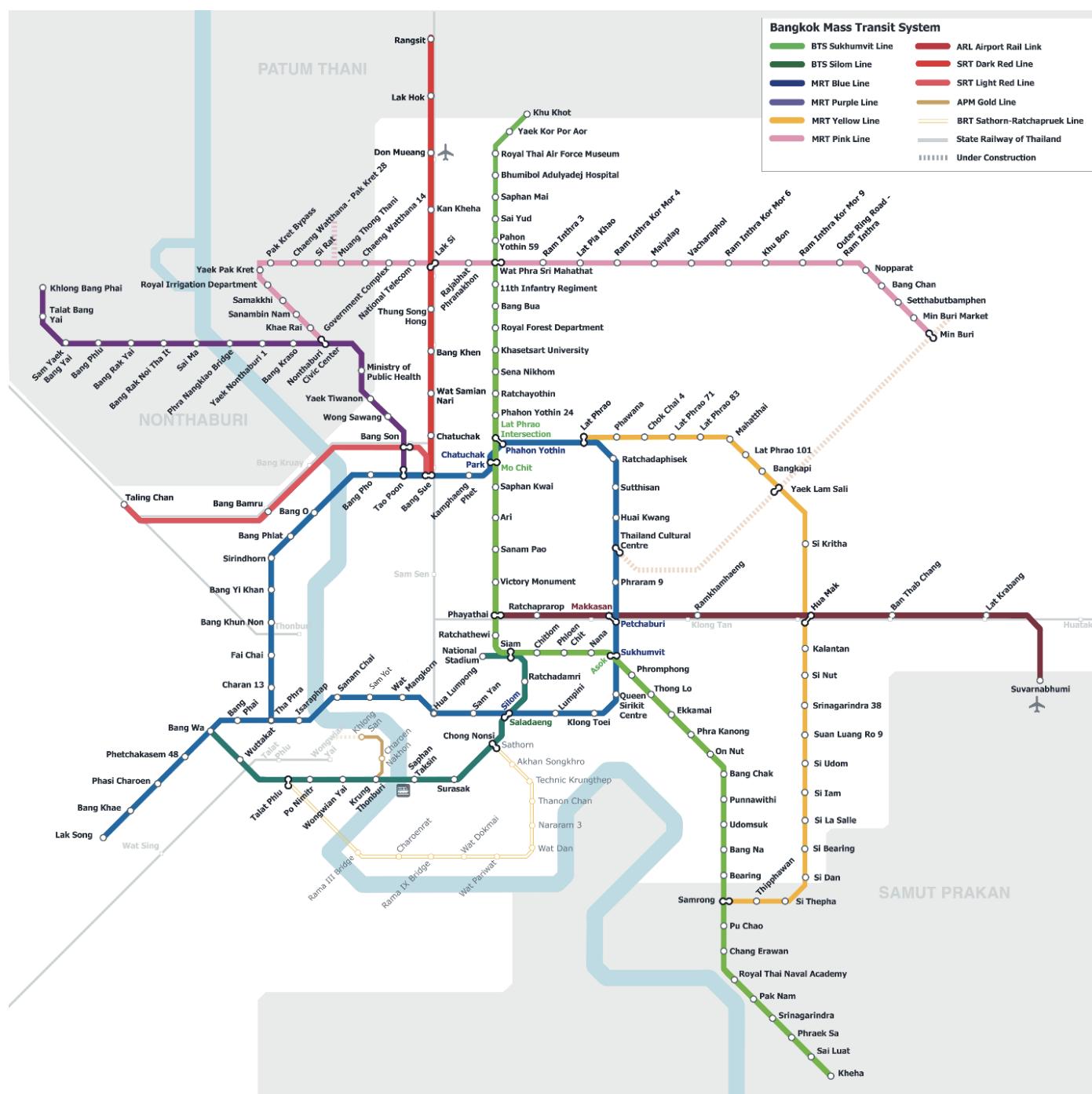


# Map of Bangkok



Bangkok map (Old town – Rattanakosin)

# Map of Bangkok



Bangkok Mass Transit System (Map by Zeddlex via Wikimedia Commons.)





# Kubota Engine toward Carbon Neutrality

Kubota believes that there is more than one way for internal combustion engines to contribute to carbon neutrality. We will develop solutions in the following three directions.

#### Pure Engine Solution

... More Efficient Compression Ignition & Spark Ignited Engines

#### Hybrid Solution

... Electric Motor + Engines

#### Fuel Solution

... EN15940 including HVO & Hydrogen

Kubota is pursuing all three approaches and combining each of these technologies in various ways, while advancing research efforts to help customers to make their applications carbon neutral.

[global.engine.kubota.co.jp/en/](https://global.engine.kubota.co.jp/en/)







TRACER 9 GT



YDX-MORO 07 30th anniv.



NMAX

Empowered by a passion  
for innovation, we create  
exceptional value and  
experiences that enrich the  
lives of our customers.

*Revs Your Heart*



NMAX



FX Cruiser HO



F450A | Outboard





**NOISE**

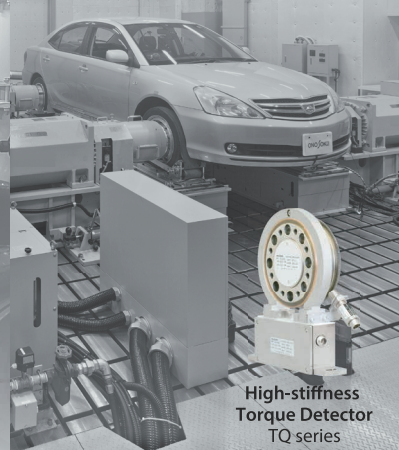
Measure engine noise/Find noise source

**FLOW RATE**

Measure fuel consumption on-board

**ROTATING SPEED**Measure the rotating speed of an engine  
by using microphone and accelerometer**TORQUE**

Measure engine torque

**Measurement/Analysis Software**

Flexible data-edit from huge amount of time-series data



O-Solution/DS-5000

ONOSOKKI (THAILAND) CO., LTD.

1/293-4 Moo.9 T.Bangphud A.Pakkred Nonthaburi 11120, Thailand Phone (+66) 2-584-6735 Facsimile (+66) 2-584-6740 E-Mail sales@onosokki.co.th <https://www.onosokki.co.th/>**APL**

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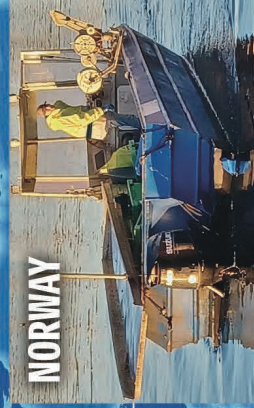


# SUZUKI ENGINES' LONG LIFE METER

THE  
**ULTIMATE**  
OUTBOARD MOTOR

Here is the data of our customers who have used Suzuki outboard motor for a long time. These engines worked for long periods and they are still active.\* We would like to express our sincere appreciation to them and we will continuously make our best efforts to provide Suzuki outboard motor so the customers can use it longer.

\*As of January 2023



NORWAY

DF140A

**3,116**hours

use for  
Commercial Fishing



CHINA

DF140A

**4,291**hours

use for  
Commercial Fishing



JAPAN

DF150T

**3,513**hours

use for  
Commercial Fishing



UAE

DF250 (Triple engine)

**4,633**hours

**5,851**hours

**4,632**hours

use for  
Commercial Fishing



THAILAND

DF250 (Triple engine)

**2,957**hours

**2,846**hours

**2,972**hours

use for  
Transportation



KUWAIT

DF200AP (Dual engine)

**2,084**hours

**2,085**hours

use for  
Commercial Fishing



GUATEMALA

DF115

**6,163**hours

use for  
Pleasure Fishing

## Suzuki believes giving the highest priority to Durability will make our customers happy.

This is based on the SDS (SUZUKI DIAGNOSTIC SYSTEM) and SDSM (SUZUKI DIAGNOSTIC SYSTEM MOBILE) data that has been received at periodic maintenance.

• Results will vary depending upon operating conditions (boats type, size, weight [load], weather).

• The above figures are measured values, not the values for guaranteeing.

• The above figures show the operation hours of engines at the latest periodic maintenance.

**Precondition**

- With periodical maintenance
- Without engine replacement





# WELCOME TO BREHMERGROUP

We specialize in **custom product development**, **environmental simulation** and **industrialization in the field of mechatronics**. Our know-how is based on many years of experience in the automotive supplier industry and our innovative strength. Due to our flexibility, we see ourselves as an ideal partner for your tasks and product developments in the field of mechatronics and electronics. We accompany you from the product concept to volume production. In our **own and accredited environmental simulation laboratory**, the tests are carried out by our experienced staff.

You determine the type and volume – we make it possible. Your 100% satisfaction is our highest priority.

Our quality is certified according to ISO 9001:2008 since 2008. It has been recertified according to ISO 9001:2015. Our management system has been registered by Intertek as conforming to the requirements of IATF 16949:2016.



## CUSTOMISED SOLUTIONS FOR MOTORBIKES

### MULTI-CONTROLLER

- Robust and proven operating element
- Ergonomic to operate with the left hand
- Rotate and swivel
- Magnetic haptics
- Sealed switching elements
- Automated production
- Cost-effective and safe

### HEATED "SMART" GRIPS

- With presence detection

### HANDLEBAR SWITCH

- Robust, modular and functionally safe

### FAVOURITE KEYPAD

- Microswitch with double stroke
- LIN bus communication
- Homogeneous button illumination thanks to special paint-laser systems
- Protection class IP67

### APS / eGAS

- Functionally safe
- Integrated as a module in handles and switches

### HEIGHT SENSOR

- Non-contact and wear-free

### FUEL FILLER CAP

### DATALOGGER

### SEAT HEATING

### INNOVATIVE LIGHTING APPLICATIONS, FRONT AND REAR

- and on the side, e.g. logos

### SMART CLUTCH COVER

- Cover with integrated sensors

### SIDE STAND & NEUTRAL SWITCH

# RIDE THE FUTURE – TOGETHER!



Please visit our website or contact us:

[www.brehmergroup.com](http://www.brehmergroup.com)

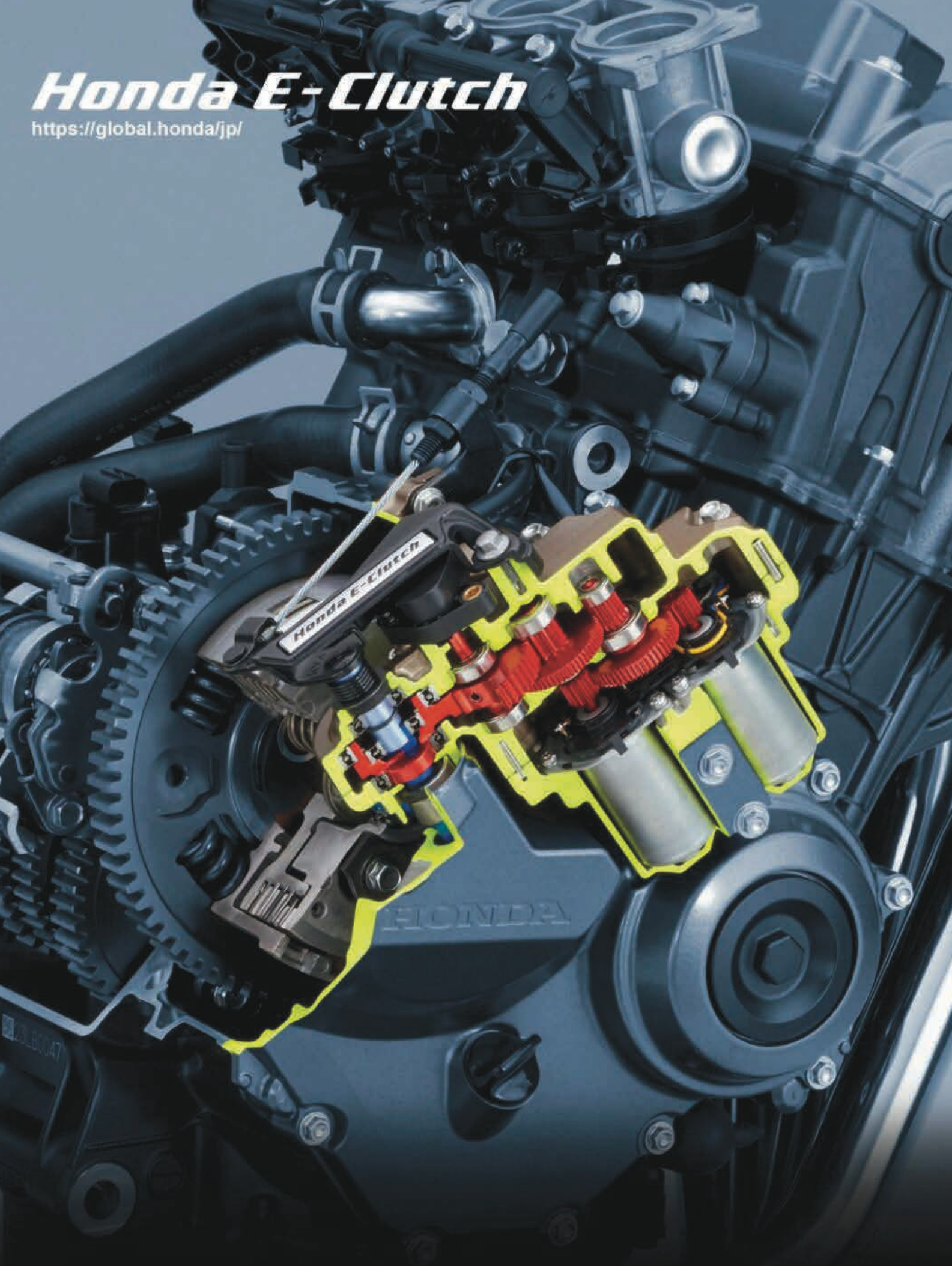
[info@brehmer.gmbh](mailto:info@brehmer.gmbh) ☎ +49 2262 72717-0





# ***Honda E-Clutch***

<https://global.honda/jp/>



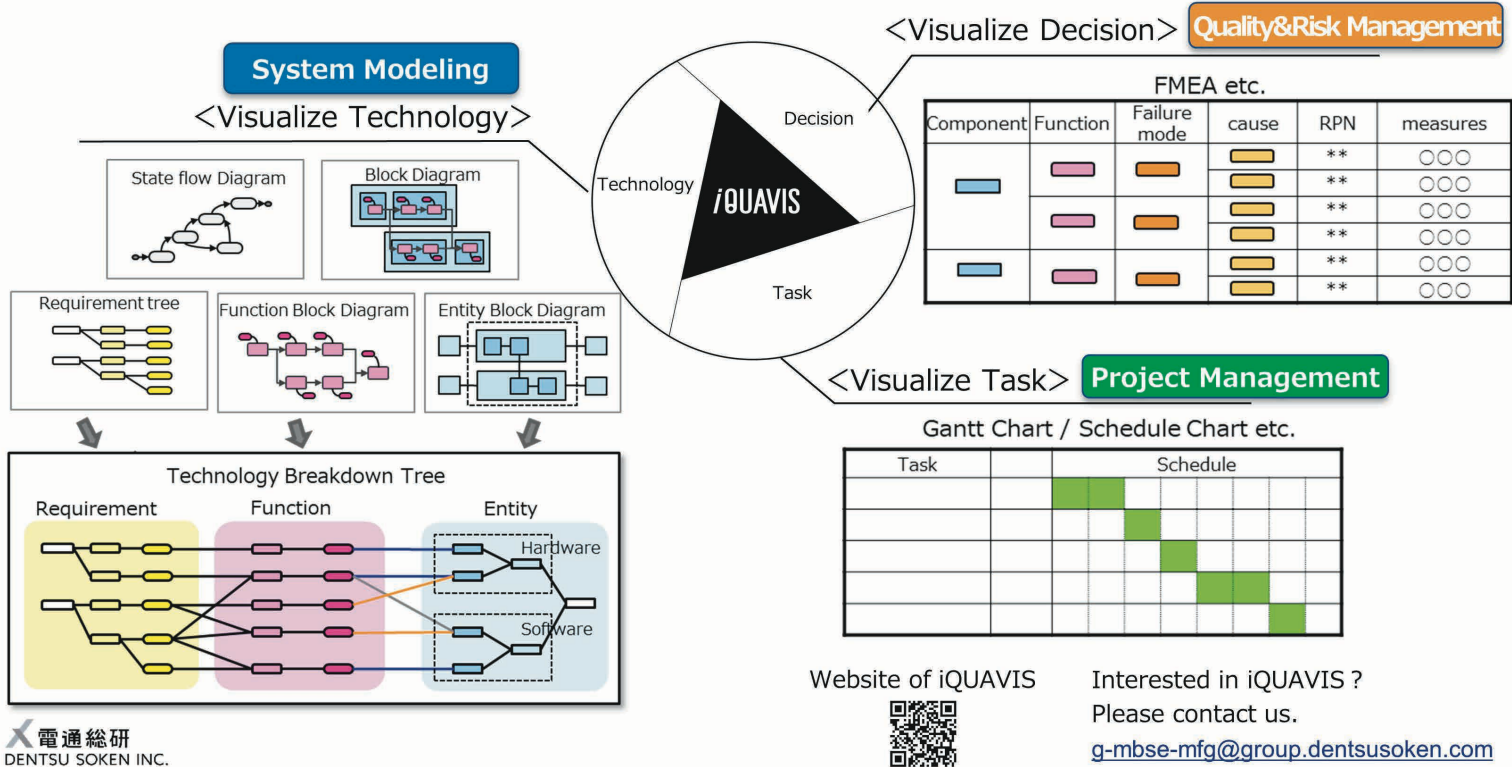
**HONDA**  
The Power of Dreams

**How we move you.**  
CREATE ► TRANSCEND, AUGMENT



## What is iQUAVIS ?

a methodology and a tool, integrating **"System Modeling"**, **"Quality & Risk Management"** and **"Project Management"** of the product development.



**3D SIMULIA**

## DISCOVER MODSIM— UNIFIED MODELING & SIMULATION

- Learn how MODSIM benefits engineers, teams, and leaders
- Discover customer success stories
- Watch webinars
- Read the FAQs
- Download the e-book
- Join the conversation in the MODSIM Community

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## ● Our Product

### ● Wire Harness



## ● End Product



## ● Software



## Contacts

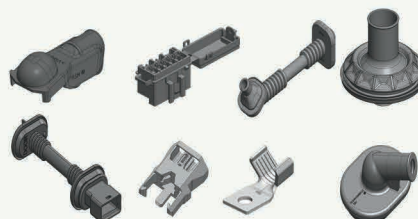
Email : [marketing\\_tsh@thaisummit-harness.co.th](mailto:marketing_tsh@thaisummit-harness.co.th)  
Phone : +66 (038) 490-760-7 Fax : +66(038)490689

## ● Laboratory



## ● Product development

### ● Component



### ● New product



## ● Our Customer



Thai summit harness Public Company Limited  
202 moo 3 Laemchabang Industrial Estate,  
Sriracha, Chonburi 20230 , Thailand





**SETC**  
**2024**