

International Conference and Exhibition

SIA ROUEN 2020 POWERTRAIN & ENERGY

The complete propulsion solution within its energy framework
for long range passenger cars and commercial vehicles

32ND
EDITION

3 - 4 JUNE 2020

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Dear Colleagues,

The requirement to address issues of global warming and oil independence is leading the automotive industry to explore simultaneously a wide range of competitive clean powertrain technologies in close connection with fuel and energy scenario development.

To evaluate the potential of each solution on GHG emissions, the scientific community and policy maker are pursuing a global system approach following a well-to-wheel basis and life cycle assessment. In this approach, energy production, distribution and usage in the vehicle all contribute to the overall CO₂ emissions reduction potential. As a consequence, the powertrain development should take **a comprehensive system approach including combustion, electrification and fuels to ensure sustainable energy and emissions.** Low carbon technologies for long range vehicles open up new opportunities but there are still important challenges. Their cost remains a major challenge in order to achieve customer acceptance and ensure a successful transition towards low and zero emissions vehicles.

In this context, the organizing committee decided to enlarge the scope of the 32nd SIA Powertrain congress, to consider the **complete propulsion solution within its energy framework with a specific focus on long range passenger cars and commercial vehicles.** Therefore, this new edition is called SIA **POWERTRAIN & ENERGY // Rouen 2020** and it will cover all the ongoing developments of highly efficient combustion engines, hybridization and battery & fuel cell electric propulsion. It will also address the energy framework and roadmap concerning renewable energy use in transportation. With the support of **PFA** - French Association of the Car Industry and the support of **EVOLEN** - French Association of Oil & Gas industry and Renewables.

The last edition of SIA POWERTRAIN & ELECTRONICS conference held in Paris on June 2019 was again a great success, with 770 participants from 17 countries, 63 scientific and technical presentations, a panel session on energy and a Round Table with the top-level representatives of OEMs and Tier1 companies.

We are committed to organizing an even better edition in 2020 and are pleased to invite you to be part of this unique and prestigious event.

We look forward to welcoming you in Rouen on June 2020.

Conference Chair
Dr Nouredine
GUERRASSI,

Chief Engineer –
Advanced Engineering
Fuel Injection &
Combustion,
Delphi Technologies

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Conference Chair

Nouredine Guerrassi, Delphi Technologies

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Damien VERDIER, Vitesco Technologies

Andy WARD, Ricardo

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CALL FOR DEMO CARS // FREE OF CHARGE

The Organizing Committee is soliciting companies for demonstration vehicles that will showcase technologies related to the conference topics.

Test-Drive Cars will be displayed inside the Parc des Exposition's facilities on a private track - prototypes are also welcome as no licence plates are mandatory (day & night security).

For our exhibitors only: Demo-Car could also be showcased inside the exhibition hall (motors, demo-cars without fuels, etc.).

Please ask for information :

Martin PIERRELEE // martin.pierrelee@sia.fr // +33 1 41 44 93 76



DEADLINE

27 APRIL
2020

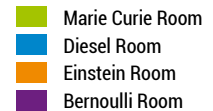




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PROGRAMME 3 JUNE 2020

07:30 > ATTENDEES REGISTRATION & COFFEE IN THE EXHIBITION

OPENING PLENARY SESSION

- 08:30 > **Welcome Introduction**
Jacques GRAIZON, President & Hervé GROS, Chief Executive, Société des Ingénieurs de l'Automobile
- 08:35 > **Opening address by the Conference Chair**
Nouredine GUERRASSI, Delphi Technologies
- 08:45 > **New European fuel & powertrain Well-To-Wheels Study**
Marta YUGO - Concawe Science Executive for Economics & Modelling in the fields of CO₂ and Energy

OPENING PANEL SESSION

- 09:15 > **Technologies for carbon neutrality for long range**
Johan ENGEBRATT - VP Powertrain Strategic Development, AB VOLVO
Thomas KOCH - Director, Karlsruher Institut für Technologie (KIT)
Alain RAPOSO - SVP, Powertrain and Chassis Engineering, GROUPE PSA
Marie-Noëlle SEMERIA - CTO - TOTAL
Jean-François TARRABIA - SVP-Product Marketing, R&D, VALEO

10:30 > COFFEE BREAK IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE

GHG EMISSIONS & LIFE CYCLE ASSESSMENT

Denis BARBUSIAUX, Evolen & Jean-Marie BOTTE, Evolen

HYBRID SYSTEMS SMART MANAGEMENT

Pierre DURET, IFP-School & Steffen MEYER, BorgWarner

ICE EFFICIENCY IMPROVEMENT I

Fabrice FOUCHER, Université d'Orléans & Olivier IMBERDIS, IAV

HYDROGEN & FUEL CELLS I

Olivier COPPIN, Faurecia & Joël OP DE BEECK, Plastic Omnium

- 11:30 > **Contribution of light and heavy vehicles to reducing energy demand and CO₂ emissions by 2035 worldwide**
Jean-Luc BROSSARD, PFA - French Automotive Industry & Mobilities
- 11:30 > **Advanced Thermal System Control Optimisation on Ricardo "CONNECT HEV" democar**
Peter FUSSEY, Ricardo
- 11:30 > **Air system challenges for an ultra-lean SI engine concept**
Cédric LIBERT, Groupe Renault
- 11:30 > **Hydrogen Combustion – a Puzzle Piece of Future Sustainable Transportation!**
Reza REZAEI, IAV
- 12:00 > **Life Cycle analysis - base for decision or object for discussion?**
Olaf TOEDTER, KIT
- 12:00 > **Intelligent Driving: Achieving CO₂ Reduction through Advanced Propulsion and Vehicle Control**
Karim AGGOUNE, Delphi Technologies
- 12:00 > **Dual-fuel RCCI OMEx-gasoline combustion to reduce the well-to-wheel CO₂ levels towards the 2025 horizon**
Olivier POUSSIN, AB Volvo
- 12:00 > **Fuel Cell Systems for Heavy Duty Applications**
Marius WALTERS, FEV
- 12:30 > **Greenhouse Gas Emissions of Passenger Vehicles from a Cradle-to-Grave Perspective**
Victor GORDILLO, Aramco
- 12:30 > **Powertrain Virtual Testing**
Hervé COLIN, Groupe Renault
- 12:30 > **Water injection system for future gasoline direct injection engine**
Christophe GARSJ, Delphi Technologies
- 12:30 > **Design Criteria for cost-efficient Hydrogen Storage Systems (HSS's)**
Axel SEIFERT, Plastic Omnium

13:00 > LUNCH BREAK IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE

48V ARCHITECTURE

Claudine ROCHETTE, Valeo & Damien VERDIER, Vitesco Technologies

ICE EFFICIENCY IMPROVEMENT II

Omar HADDED, Drive System Design & Rémy SCHMITT, Robert Bosch

HYDROGEN & FUEL CELLS II

Marc LEJEUNE, AB Volvo & Geoffroy MARTIN, Mov'eo

ALTERNATIVE FUELS I

Philippe CHINA, Total & Jean-François SAINT-MARCOUX, Evolen

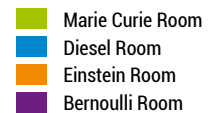
- 14:30 > **Benefit of 48 V mild hybridization of distribution trucks**
Christophe MAGNET, AB Volvo
- 14:30 > **MAHLE Passive Jet Ignition, Whole Area Operation and the Influence of the Ignition System of Pre-Chamber Combustion**
Adrian COOPER, Mahle Powertrain
- 14:30 > **Model based design of Fuel Cell powertrains**
Ralf WASCHECK, IAV
- 14:30 > **reFuels – rethinking fuels for CO₂ neutral mobility**
Olaf TOEDTER, KIT
- 15:00 > **48 Volt High Power – Highly Efficient Full Hybrid for Mass Market Segment**
Stefan LAUER, Vitesco Technologies
- 15:00 > **Definition of the configuration for future CNG SI engines operating with the passive pre-chamber ignition concept**
Ricardo NOVELLA, CMT - Motores Térmicos
- 15:00 > **FCEV performance assessment during transient driving conditions – the impact of water conditioning**
Christoph POETSCH, AVL
- 15:00 > **e-Fuel production via renewables and their impact on WtW Fleet CO₂ performance**
Martin ROTHBART, AVL

- Marie Curie Room
- Diesel Room
- Einstein Room
- Bernoulli Room

PROGRAMME 3 JUNE 2020

15:30	> 48V Platform Modularity: an answer to e-mobility complexity? Pierre CHOLVY, Valeo	Swumble In-Cylinder Fluid Motion for High Efficiency Gasoline SI Engines: development of the second generation Michèle BARDI, IFP Energies Nouvelles	Systemic fuelcell powertrain architecture simulation to optimize durability, efficiency and performances Gautier QUENEY, Faurecia	Sustainable pathways towards transportation decarbonization by PtX-Fuels Thomas KOERFER, FEV
16:00 > COFFEE BREAK IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE				
	ALTERNATIVE FUELS II Virginie MOREL, Aramco & Michael WEISSBÄCK, AVL	HYBRID DRIVETRAIN Christophe CALLENS, Valeo & Jean-Philippe MERCIER, Groupe Renault	REAL DRIVING EMISSIONS Emmanuel JEAN, Faurecia & Juergen MANNS, IAV	BATTERY SYSTEMS Bertrand LARGY, SIA EV Expert Community Chairman & Ali MOHAMMADI, Toyota
17:00	> Potential of Ammonia as future zero-Carbon fuel as one possibility for future mobility Christine ROUSSELLE, Université d'Orléans	Driveability evaluation of dedicated hybrid transmission for cost efficient PHEV Kiarash SABZEWARI, Vitesco Technologies	Thermal management strategies for optimum performance of NOx aftertreatment applied in a demonstrator vehicle Ludwig BUERGLER, AVL	Battery research at Renault Pierre TRAN-VAN, Groupe Renault
17:30	> TOTAL HVO100 a low carbon drop-in fuel reducing emissions Cyrille CALLU, Total	Modular and highly functional Hybrid Platform for subcompact cars up to full-size SUV Eric SCHNEIDER, IAV	Emissions and Immissions – The Diesel perspective. An assessment of the future of internal combustion engines Thomas KOCH, KIT	Demobase project: HIL tests approach for integration assessment of an innovative battery pack in a light electric vehicle Joseph MARTIN, IFP Energies Nouvelles
18:00	> EC H2020 Engine tests with new types of biofuels and development of biofuel standards - Stability and robustness of actual FAME report Gérald CREPEAU, Groupe PSA	Forming the Transformation – How Electrification changes the Portfolio of Transmission Components Hartmut FAUST, Schaeffler	ELEMENTS a compact measurement system for regulated and unregulated emissions Philippe SCHIFFMANN, IFP Energies Nouvelles	Electric vehicle Adoption: How much is Charging Infrastructure the real Problem? Thinking out of the Chicken-and-Egg Paradox... Philippe CHAIN, Zenobe
18:30 > COCKTAIL IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE				
20:00 > GALA DINNER AT THE PARC DES EXPOSITIONS				





PROGRAMME 4 JUNE 2020

07:30	> WELCOME COFFEE IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE			
	DIESEL HYBRID POWERTRAIN Nadim ANDRAOS, FEV & Daniel ROETTGER, Ford	ICE EFFICIENCY IMPROVEMENT III Gaëtan MONNIER, IFP Energies Nouvelles & Andy WARD, Ricardo	BATTERY THERMAL MANAGEMENT Philippe CHAIN, SIA EV Expert Community & Erwann SAMSON, Groupe PSA	ELECTRIC MACHINES AND POWER ELECTRONICS Patrick CREMONA, Vitesco Technologies & Sophie PERSONNAZ, Valeo
08:00	> Benefits and Limits of Waste-Heat Recovery with Rankine Cycle for Long-Haul Trucks Thomas REICHE, AB Volvo	> The potential of spark assisted auto-ignition combustions for high indicated efficiency gasoline engines Matthieu CORDIER, IFP Energies Nouvelles	> Fast Charging of HV Battery Systems thanks to Efficient Thermal Management David LASUEN, IAV	> 800V System Permanent Magnet Machine and Multispeed Transmission Camelia JIVAN, Valeo
08:30	> FEV Diesel EMotion – Electrified Diesel Powertrain for Light Commercial Vehicles to Meet Stringent CO ₂ Emission Norms Thomas KOERFER, FEV	> Highly efficient combustion engines with near zero impact on air quality Martin KRUEGER, Robert Bosch	> Battery thermal management systems development and vehicle integration for conventional and ultra-fast charging capabilities Cédric ROUAUD, Ricardo	> Challenges and Solutions for Lithium Ion Cell based Energy Storage Systems Markus EKLER, STMicroelectronics
09:00	> On the way towards Zero Impact - Electrified Diesel Drivetrains to support sustainable and affordable Mobility Michael WEISSBAECK, AVL	> Study of fuel injection and spark ignition parameters for the SACI concept Richard OUNG, Université d'Orléans	> Novel battery thermal management enabling near zero temperature gradient for fast charging while improving safety Rémi DACCORD, Exoes	> Power Electronic Components based on Silicon Carbide Devices for Future Vehicle Power Systems Niklas LANGMAACK, TU Braunschweig
09:30	> Integration of an Electrically Heated Catalyst in a 48V system: Technologies, impact and system balancing Damien VERDIER, Vitesco Technologies	> Numerical Assessment of an Innovative Piston Bowl Concept in a Light-duty Diesel Engine Federico MILLO, Politecnico di Torino	> A nodal thermal model for a large prismatic Li-ion battery cell Marco SIMONETTI, Groupe PSA	> Induction Machines for Electric Drive Systems Paul SIMS, Drive System Design
10:00	> COFFEE BREAK IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE			
	KEYNOTE PLENARY SESSION			
11:00	> Post Euro 6/VI emissions regulation for light duty and heavy duty Panagiota DILARA - Senior Expert / Clean Vehicles Team Leader, European Commission			
	2ND DAY PANEL SESSION			
11:30	> Technology mutations and their impact on the skills and organizations of our groups Norbert ALT - CEO, FEV EUROPE Gilles LE BORGNE - EVP Engineering, GROUPE RENAULT & President of CTA Christian MECKER - SVP Sales Powertrain Solutions, ROBERT BOSCH Takashi UEHARA - Chief Engineer & General Manager of Vehicle Development Center, TOYOTA International Energy Leader			
12:45	> STUDENT POSTER AWARD CEREMONY !			
13:00	> LUNCH BREAK IN THE EXHIBITION // DEMO-CARS SHOWCASE & TEST-DRIVE			
	CLOSING PLENARY SESSION Thomas KOCH - KIT & Federico MILLO, Politecnico di Torino			
14:30	> Future Powertrains for Carbon-Neutral Trucks Johan ENGEBRATT - VP Powertrain Strategic Development, Volvo Group			
15:00	> Hydrogen and Fuel Cell for Future Mobility Nicolas LECLERE - Senior Manager Electrified Powertrains, Groupe PSA			
15:30	> Powertrain Technology Mix Outlook 2035 Robert LASSARTESES - E-Technologies & Advanced Systems General Manager, Groupe RENAULT			
16:00	> Closing Remarks by the Conference Chair Noureddine Guerrassi, Delphi Technologies			
16:30	> END OF THE CONFERENCE			

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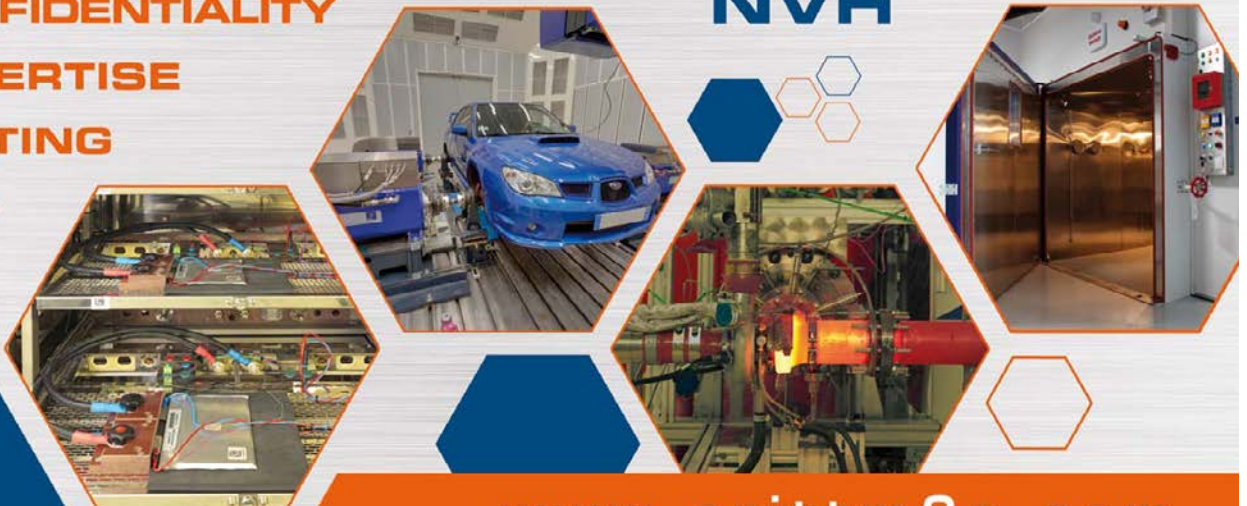
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- 594 € VAT Incl. (495 € VAT Excl.) - Co-authors, PhD Student, Researchers*, Labs* and Small Firms* (< 100 employees)
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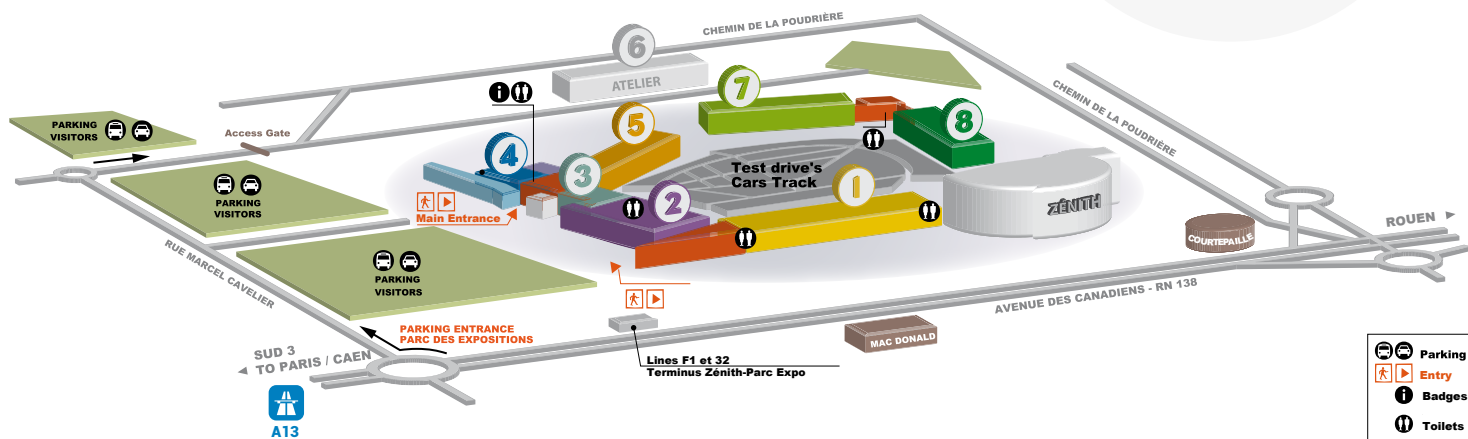
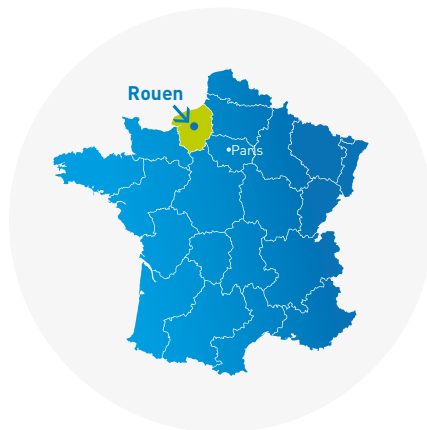
- Registration fees include participation in the conference, proceedings, refreshment breaks, lunches, cocktail & dinner on June 4th, 2020.
- Where it is not possible to send the payment together with the form, each registration should be accompanied by an official purchase order. Failing reception of an official purchase order or payment on the day of the congress, we regret that you will not be allowed to enter the congress.
- When we have received the registration form, we will send you a confirmation message and an invoice. **Please indicate the accounts department address where necessary.**
- In case of cancellation before **3 May 2020**, 30% of the registration fees will be retained. After this date, the entire registration fee will be retained. Registered participants not able to attend may nominate a substitute. Written notice must be provided.

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Paris > Rouen

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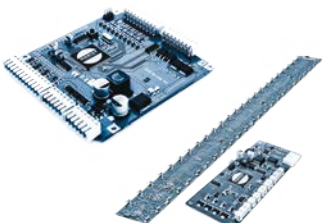
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