VERSAILLES 2017

SIA SOCIÉTÉ DES INGÉNIEURS DE L'AUTOMOBILE

29TH EDITION

PROGRAMME
2017-01

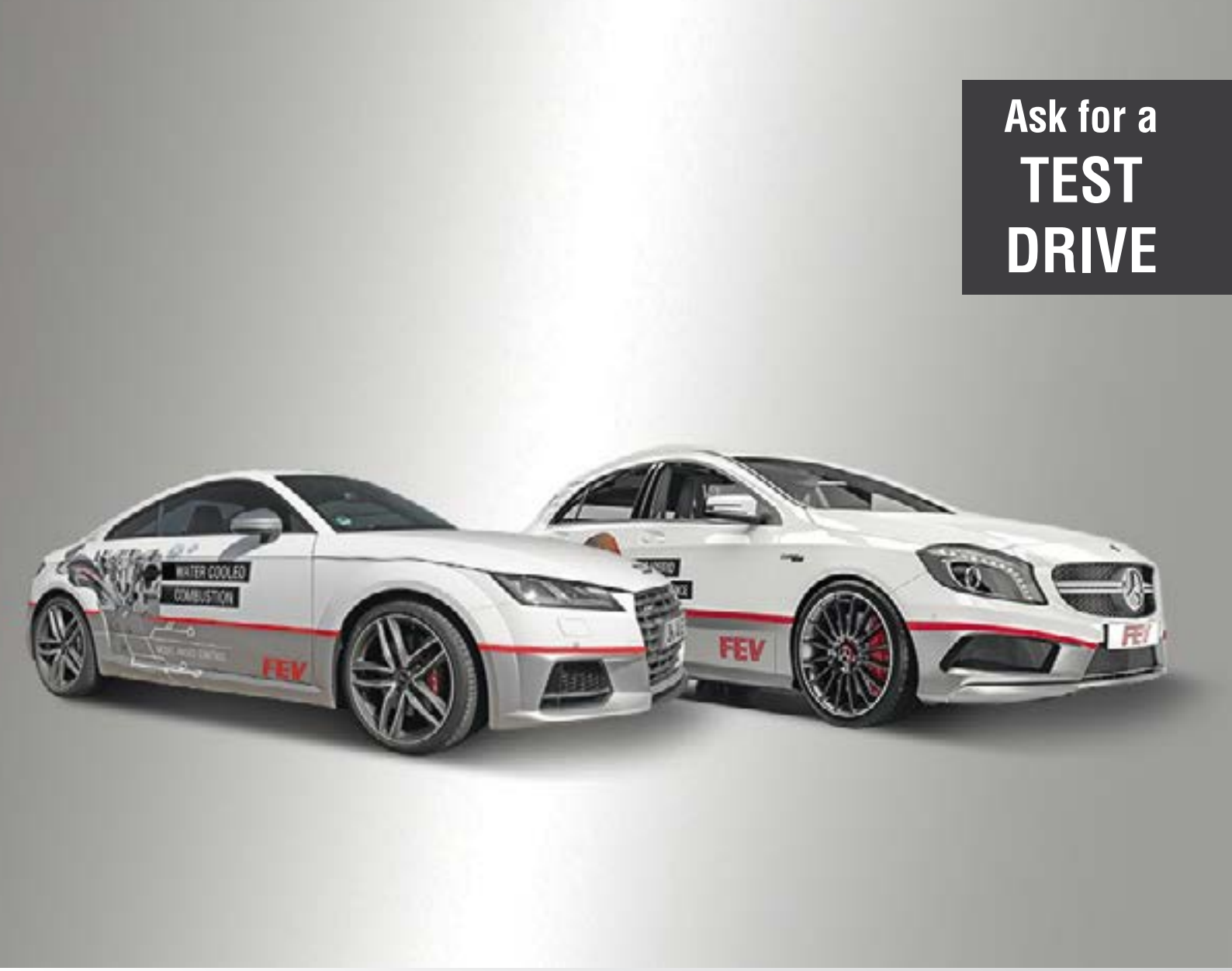
International Conference and Exhibition

SIA POWERTRAIN // VERSAILLES 2017

The low CO_2 spark ignition engine of the future and its hybridization

VERSAILLES, FRANCE
June 7 & 8, 2017

AVL · FEV · IFP SCHOOL · SCHAEFFLER · Valeo · AQUARIUS · MCE-5 · IFP Energies nouvelles · ADACCESS · aramco · BorgWarner · automotive engineering iav · RICARDO



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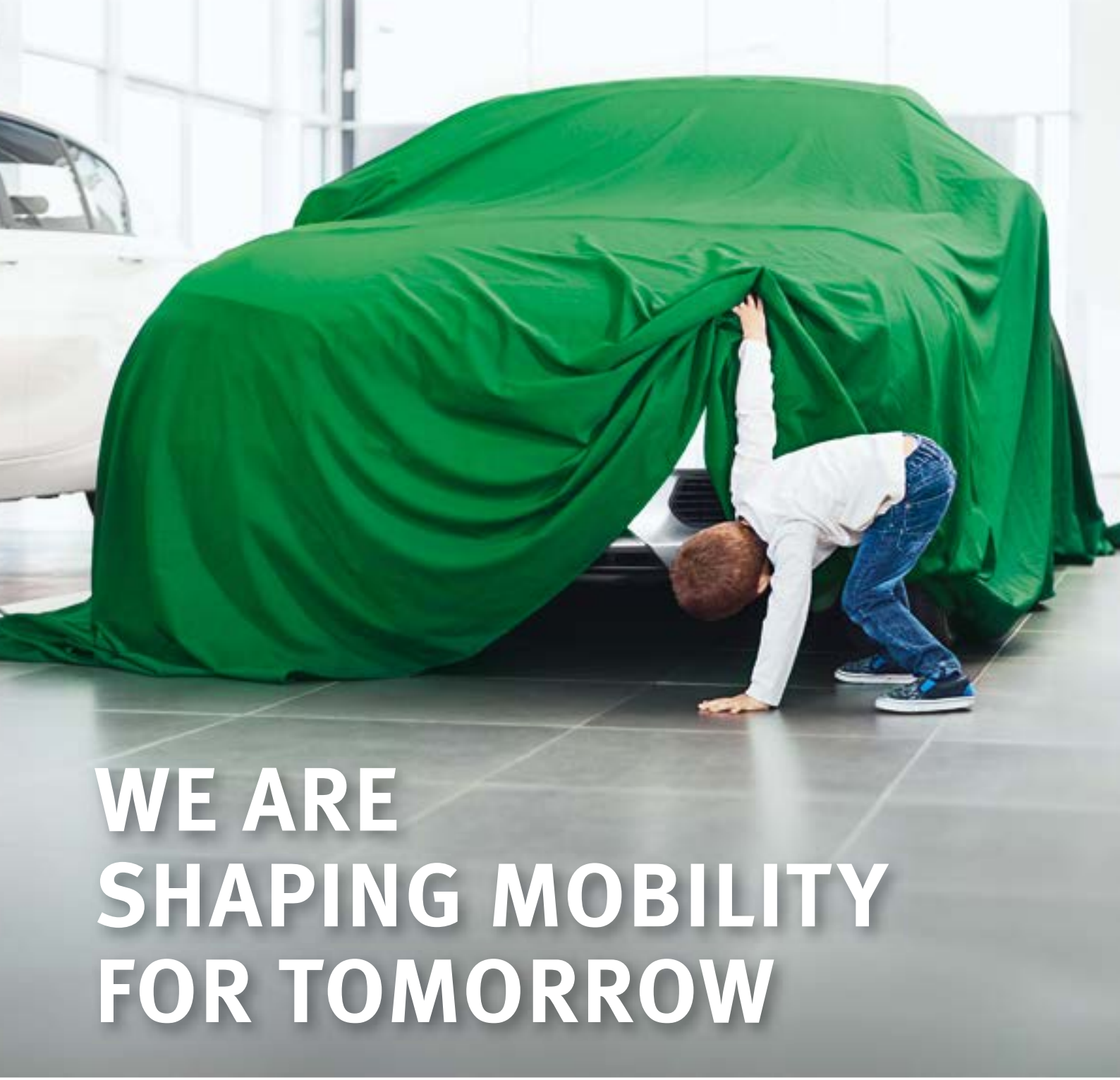
In this context, the 2017 SIA Powertrain Congress in Versailles will address "The low CO_2 gasoline engine of the future and its hybridization." The gasoline engine, hybrid or not, has a major role to play: it supports the international development of the automotive industry by meeting most global market needs, it now offers leading performance through downsizing, and its strong synergy with hybridization helps optimize benefits vs. costs.

The 2015 edition was a fantastic success: more than 400 participants, 50 technical papers, from more than 18 countries. Be part of this adventure and the Gasoline Powertrain revolution. **Join us for this 2017 edition!**



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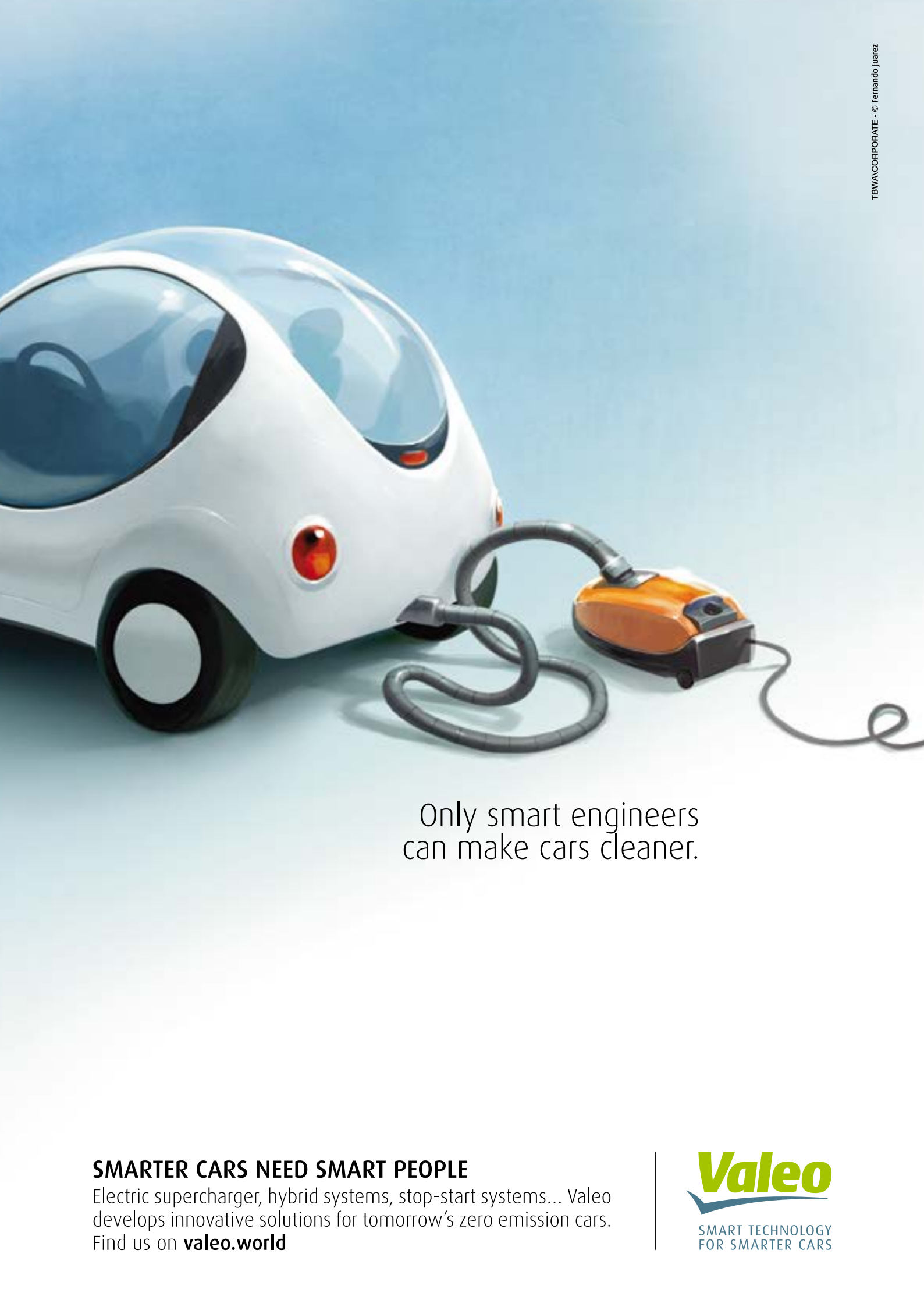
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PROGRAMME // 7 JUNE 2017

07:30 › ATTENDEES REGISTRATION - BREAKFAST IN THE EXHIBITION

OPENING PLENARY SESSION & KEYNOTE SPEECHES

08:30 › Opening address by the Conference Chairmen
Philippe BERNET | Renault
Erwann SAMSON | Groupe PSA

08:45 › Global Energy Demand from Road Transportation Vehicles – A View by 2030 by the PFA & BIPE
Catherine GIRARD - Expert Leader, Strategy on Energy and Raw Materials | Renault

09:00 › Renewable fuels: a natural way for green ICE enabling a circular economy
Dario SACCO, Head of Powertrain Research and Technology | Centro Ricerche FIAT

09:15 › The SI Engine: at the end of its development?
Frank ALTENSCHMIDT - Development Engineer | Daimler

09:30 › Consideration of Powertrain Rational Evolution through Electrification
Masaaki KUBO - Powertrain advanced engineering Alliance General Manager | Alliance Renault Nissan

09:45 › Technology Trends For Gasoline Injection Systems
Philippe BERCHER - Deputy Engineering Director FIE, Powertrain Systems | Delphi

10:00 › The transformation of powertrain with electrification
Michel FORISSIER - Product Marketing, Research and Development Director | Valeo

10:15 › Panel Discussion with the Keynote Speakers

10:30 › COFFEE BREAK

	VARIABLE COMPRESSION RATIO **Philippe BERNET | Renault & Erwann SAMSON | Groupe PSA**	ENERGY MANAGEMENT & CONTROL **Franck ALTENSCHMIDT | Daimler & Yasuo MORIYOSHI | Chiba University**	EGR MANAGEMENT **Emmanuel JEAN | Faurecia & Daniel ROETTGER | Ford**	CYLINDER DEACTIVATION & CAM PHASING **Geoffroy MARTIN | MOVEO & Ricardo NOVELLA | CMT**
11:00 ›	Combination of Variable Compression Ratio and Early Intake Valve Closing as a Basis for Future Highly Efficient Gasoline Engines M. Sens, M. Guenther, U. Walther, S. Nicklitzsch, J. Mueller | IAV	Predictive and Optimal Control for Connected Hybrid Vehicle M. Sans | Continental Automotive	Optimisation of Low Pressure EGR to Reduce BSFC on a 3-Cylinder Gasoline Turbocharged Direct S. Petrovic, C. Vigild, J. Groeger, K. Grieser, A. Kuske | Ford Research Centre	Potentials of Modern Camshaft Phasing Systems P. Solfrank, J. Dietz | Schaeffler Technologies
11:30 ›	AVL Dual Mode VCSTM - The Modular and Cost Efficient CO_2 Reduction H. Sorger, W. Schöffmann, S. Lösch, A. Krobath, A. Fürhapter, W. Unzeitig, G. Fraidl | AVL K. Arens, Th. Weiß, M. Heller | iwis motorsysteme	Online Optimal Control of a Plug-in Hybrid Electric Vehicle with Adaptive Battery Discharge Management T. Miro Padovani, A. Ketfi-Cherif | Renault	LP EGR mixing under RDE extended conditions: analysis of key parameters influencing condensation I. Vidal, A. Sotelo, I. Gonzalez, X. Perez | BorgWarner	Dynamic Skip Fire: An Optimized Cylinder Deactivation Strategy M. Younkins, J. Fuerst | Tula Technology
12:00 ›	VCR-VVA-High Expansion Ratio: A Very Effective Way to Miller-Atkinson Cycle V. Collee, C. Constensou | MCE-5 Development	Fuel Economy Benefits of Electrified Powertrains with Advanced Combustion Engines: Mild to Strong HEV Applications M. Shahbakhti, A. Solouk | Michigan Technological University	Simultaneous Achievement of Low Emissions and High Efficiency through Dedicated Exhaust Recirculation T. Alger, T. Briggs, C. Chadwell, B. Denton, D. Robertson | Southwest Research Institute	Innovative Active Torsional Vibrational Damping System for Engine Cylinder Deactivation, Down Speeding & Best Comfort V. Saxena, F. Schneider, A. Moser | BorgWarner

12:30 › LUNCH BREAK

PROGRAMME // 7 JUNE 2017

	ADVANCED ENGINE CONCEPTS **Ali MOHAMMADI | Toyota Europe & Andy WARD | Ricardo**	PARTICULATE EMISSIONS MITIGATION **Nadim ANDRAOS | FEV & Jean Marc BOULARD | IAV**	EFFICIENT ENGINE & IGNITION **Hans NUGLISCH | Continental & Marc SENS | IAV**	HYBRID TRANSMISSIONS **Jérôme MORTAL | Jaguar Land Rover & Alex TYLEE | DSD**
14:00 ›	Investigation of Combustion Engine Concepts for the use in an Electrified Powertrain V. Bevilacqua | Porsche Engineering	Emissions from Vehicle Exhaust of Gaseous Precursors of Atmospheric Particles K. Sartelet | CEREA	Increasing Modern Spark Ignition Engine Efficiency: Optimization of Intake Ports Dedicated to Miller Cycle, High Dilution and Increased Compression Ratio J. Trost, O. Laget, M. Cordier, F. Duffour, X. Gautrot | IFPEN	Electric Drive Units for Hybrid Vehicles: Topology and Impact on Efficiency F. Garbo, A. Michaelides, J. Mortal | Jaguar Land Rover
14:30 ›	A Modular Base Engine Architecture for Mild Hybrid Applications P Grzeschik, J. Scharf, A. Uhlmann, M. Souren, M. Plettenberg, J. Lehmann, A. Balazs | FEV	Gasoline Particulate Filters - Market and Technology Trends and their Impact on Calibration M. Görgen, S. Herrmann, M. Hendrikx, M.Nijs, J. Scharf | FEV S. Sterlepper | Institute for Combustion Engines, RWTH Aachen University	Engine and Aftertreatment Strategies for Lean Gasoline Engines to Meet Real Driving Emissions Legislation E.Koehler, R. Osborne, M. Keenan, T. Downes | Ricardo	PHEV and HEV: New Alliance Hybrid Transmission for Compact Cars N. Fremau, A. Ketfi-Charif, A. Vignon | Renault
15:00 ›	200kW/l: Modular Engine Family Stretch for Highest Commonality and Performance M. Neubauer, P. Kapus, D. Hilbert, W. Schoeffmann | AVL	Performance of advanced Gasoline Particulate Filter Material for Real Driving Conditions D. Thier, K. Kato, M. Yamashita, C. D. Vogt | NGK EUROPE Y. Ito, T. Shimoda, T. Aoki, H. Sakamoto | NGK INSULATORS	Homogenous Lean Burn Combustion for Gasoline Engines: A Comparison between High Energy Spark Ignition and High Frequency Corona Ignition Systems A. Paa, M. Wörner, C. Spang, G. Rottenkolber | University of Applied Sciences Esslingen	Full Hybrid Planetary Transmission with On Demand Actuation P. Janssen, Y. Zhang | FEV
15:30 ›	Extremely Downsized Gasoline Demonstrator Vehicle M. Bassett, J. Hall, T. Cains | MAHLE Powertrain R. Wall | Aeristech	Experimental Investigation of Ethanol Blends in a DISI-Engine in Transient Operation with Regard to Particle Emissions and Mixture Formation A. Heinz, H. Karlsruhe, J. Pfeil, C.Disch, T. Koch | KIT	A Novel Low-Temperature Plasma Ignition System Applied to a GHP Engine Y. Moriyoshi, T. Kuboyama, O. Matsumoto | Chiba University T. Nakamura, Y. Kinuzawa | Toyota K. Tanoue | Ohita University	The Future for the Connected Drivetrain Systems S. Shepherd | Drive System Design

16:00 › COFFEE BREAK

16:30 › PANEL SESSION

Christian CHAPELLE - Head of Powertrains and Chassis | Groupe PSA

Anthony HARPER - Research Director | Jaguar Land Rover

Helmut LIST - President | AVL

Robert MEYER - Vice President Corporate Strategy/Cooperations | BMW

Koichi NAKATA - Project General Manager, Advanced Engine Design & Engineering Div., Powertrain company | Toyota

18:30 › COCKTAIL DINNER IN THE EXHIBITION

PROGRAMME // 8 JUNE 2017

08:00 › WELCOME COFFEE IN THE EXHIBITION

	MICRO & MILD HYBRIDS Pierre Yves GEELS | AVL & Sebastien POTTEAU | EMC	FUEL INJECTION Rémy SCHMITT | BOSCH & Philippe SOUHAITE | Groupe PSA	BOOSTING TECHNOLOGIES Gunther FRAIDL | AVL & Gaétan MONNIER | IFPEN	VIRTUAL ENGINE DESIGN Kyoungdoug MIN | Seoul National University & Jean Sebastien ROUX | Honeywell
08:30 ›	Next Gen 48 Volt Hybrids by New Architectures and Connectivity F. Graf, O. Maiwald | Continental Automotive	Improved MPI Engine (Combustion Efficiency & PN): Engine Basis for "Massive" Hybridization? C. Genin | Continental Automotive	VNT Turbocharger for Gasoline "Miller" Engines N. Bontemps, A. Vondrak, J-S. Roux, L. Pohorelsky, D. Jeckel | Honeywell R. Aymanns, D. Lückmann | FEV	Fully virtual Development of a EU7 compliant Gasoline Combustion System, using an efficient OD/1D/3D based Development Approach N. Genty, N. Iannucci, A. Raulot, A. Tellier | Groupe PSA L. Boettcher, E. Tim Faulseit, C. Frottier, M. Riess, M. Sens | IAV
09:00 ›	12+12V and 12+48V Hybridization: A Modular Approach and Transmission Impacts O. Coppin | Valeo	Realising Direct Injection Mixture Formation Benefits with a Dual Port Fuel Injection (PFI) System A. Kevric, P. Richardson, H. Kaneta | DENSO International Europe M. Iwamuro, T. Mizobuchi, H. Shibata | DENSO Corporation	AC Cooler for Electrical Supercharger Compressed Air E. Droulez | Valeo	Numerical Study on the Particle Number Emission of Different Charge Motion and Injection Strategies in a DI-SI Engine at High Engine Load D. Notheis, A. Velji, T. Koch, M. Bertsch | KIT
09:30 ›	Versatile Selectable e-Machine Configuration Increases the Performance Potential for a Low Cost Electric Hybrid Transmission D. Yates | Drive System Design	Near-Field Velocity Measurement of a Multihole GDI Injector Y. Cao, J-B. Blaisot, S. Idahcen, C. Lacour | Coria	Enhanced Gasoline Engine Performance with Water Injection: no longer a dream J. Op de Beeck | Plastic Omnium	Simulation of Fast Transients of GDI Engines using Large-Eddy Simulation S. Jay, A. Poubeau, B. Roux, J. Bohbot, M. Cordier | IFPEN

10:00 › COFFEE BREAK & STUDENTS POSTER SESSION !

	REAL DRIVING EMISSIONS CHALLENGES Jean Christophe LAMODIERE | Kistler & Philippe BERCHER | Delphi	GASOLINE AUTO-IGNITION CONCEPTS Virginie MOREL | ARAMCO & Pierre DURET | IFP School	KNOCK MITIGATION Denis LEVASSEUR | Renault & Jean Jacques MILESI | Dynergia	ADVANCED TRANSMISSIONS Omar HADDED | DSD & Pascal HERVET | Valeo
11:00 ›	Increasing RDE Robustness using Methods of Statistical Learning F. Springer, M. Hegmann, M. Knaak, D. Reppel | IAV	Transition between SI and CAI Operating Modes in an Automotive, Low Cost, Gasoline, 2-Stroke Engine J.J. Lopez, J.V. Benajes, J. Valero-Marco | CMT-Motores Térmicos G. Coma, C. Libert | Renault	A Study on Relationship between Flame Propagation Process and Position of Knocking Occurrence through High-frequency Piston Flame Measurement System S. Cho, C. Song, K. Min | Seoul National University M. Kim | Myeongji University K-P. Ha, B. Kim, I. Suh | Hyundai Motor Group	E-Clutch as an Enabler for the Hybridisation of Manual Transmissions L. Muller, M. Kneißler, T. Eckenfels | LuK

PROGRAMME // 8 JUNE 2017

11:30	New Modelling Process to Estimate Real-World Emission and Impact Powertrain Design C. Boulanger, J. Baxter | Ricardo	The Importance of the Injection Strategy on a Light-Duty Gasoline Compression Ignition (GCI) Engine at Low Load: effect of umbrella angle, injections timing and residual nitrogen oxide (NO). The analysis P. M. Pinazzi, F. Foucher | University of Orléans	Knock Investigation through Optical Diagnostics in a Turbocharged GDI Engine using Fuels with Different Octane Number P. Sementa, F. Catapano, S. Di Iorio, B. M. Vaglieco | CNR ISTITUTO MOTORI	Freewheeling Concept: Hybrid Benefits for Manual Transmission at Low Cost P. Zabala | Drive System Design
12:00	Simulation of Real Driving Emissions and Fuel Consumption–Vehicle, Engine and Aftertreatment Modeling in Real-Time C. Pötsch, J. Wurzenberger | AVL	Advancement of GDCI Engine Technology for US 2025 CAFE and Tier3 Emissions M. Sellnau | Delphi	Knock Mitigation Techniques for Highly Bboosted Downsized SI Engines V. Doria, A. Stroppiana, M. Ferrera | Centro Ricerche FIAT- EMEA FCA Powertrain S. Luisi | EMEA FCA Powertrain F. Millo, M. Mirzaeian, D. Porcu | Politecnico di Torino	Novel Actuation and Control for a Multi-Speed Powershifting Transmission for Electrified Vehicles R. Taylor, R. Bames, A. Smith | Vocis
12:30	The RDE Methodology and its Application within the Current Development Process H. Mezher, M. Wenig, C. Armbruster | Gamma Technologies	Achates Power Opposed Piston Gasoline Compression Ignition Developments F. Redon, S. Strauss | Achates Power	Octane-on-Demand as an Enabler for Lowering CO_2 Footprint of Mobility: From Engine Tests to Vehicle Demonstration and Life Cycle Analysis V. Morel, M. Bedon, V. Gordillo | Aramco Research and Innovation L. de Francqueville, G.Bourhis, F. Vidal-Naquet, S. Dosda, R. Dauphin | IFPEN	TRANSCEND - Ultra-Wide Ratio Hybrid DCT S. Nesbitt | Jaguar Land Rover

13:00 LUNCH BREAK & POSTER AWARD CEREMONY !

NEW ENGINES INTRODUCTION

Federico MILLO | Politecnico di Torino & Amin VELJI | Karlsruhe Institute of Technology

14:30 The New Renault 1.0 MPI Engine

P. Grataloup, H. Volkaert, O. Chambert, D. Dragne, D. Reverseau, D. Levasseur | Renault

15:00 PSA Group's Proposals to Improve the Engine of the Year 2015 & 2016

F. Gouzonnat, S. Dessarthe, N. Goursot, P. Souhaite, S. Izelfanane, S. Le Coq | Groupe PSA

15:30 Introducing the Ingenium SI Engine: Jaguar Land Rover's new Four-Cylinder Gasoline Engine

M. McAllister, F. Borean | Jaguar Land Rover

CLOSING SESSION

16:00 Gasoline Powertrains: Fascinating Challenges for Mobility and Environment

Patrice MAREZ - Powertrain System Senior Expert - Vice President | Groupe PSA

16:30 Conference synthesis & Conclusion by the Conference Chairmen

Philippe BERNET | Renault

Erwann SAMSON | Groupe PSA

16:45 END OF CONFERENCE

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8 JUNE

SIA invites students to present their work - results from projects carried out at school/ university or during internships - on posters that will be displayed in the exhibition area.
The proposed posters should address the same topics as the congress.

- Participation to the poster session is free of charge for the students and their supporting lecturer. Both get free access on 8 June from 08:30 to 16:45 (conferences and exhibition included).
- A jury of powertrain experts will proceed to an evaluation of the 6 best posters from 10:00 to 11:00
- An award ceremony will be organized for the winning student(s) at 13:00 in the main conference room
- A trophy and a prize will be offered to the authors of the 3 best posters.

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Palais des Congrès

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Then, take another train RER C towards Versailles Rive-Gauche. Stop at "Versailles Rive-Gauche".
The Palais des Congrès is 5 min by foot.

By train

From Saint-Lazare station (Paris), take a SNCF train towards Paris "Versailles Rive-Droite".
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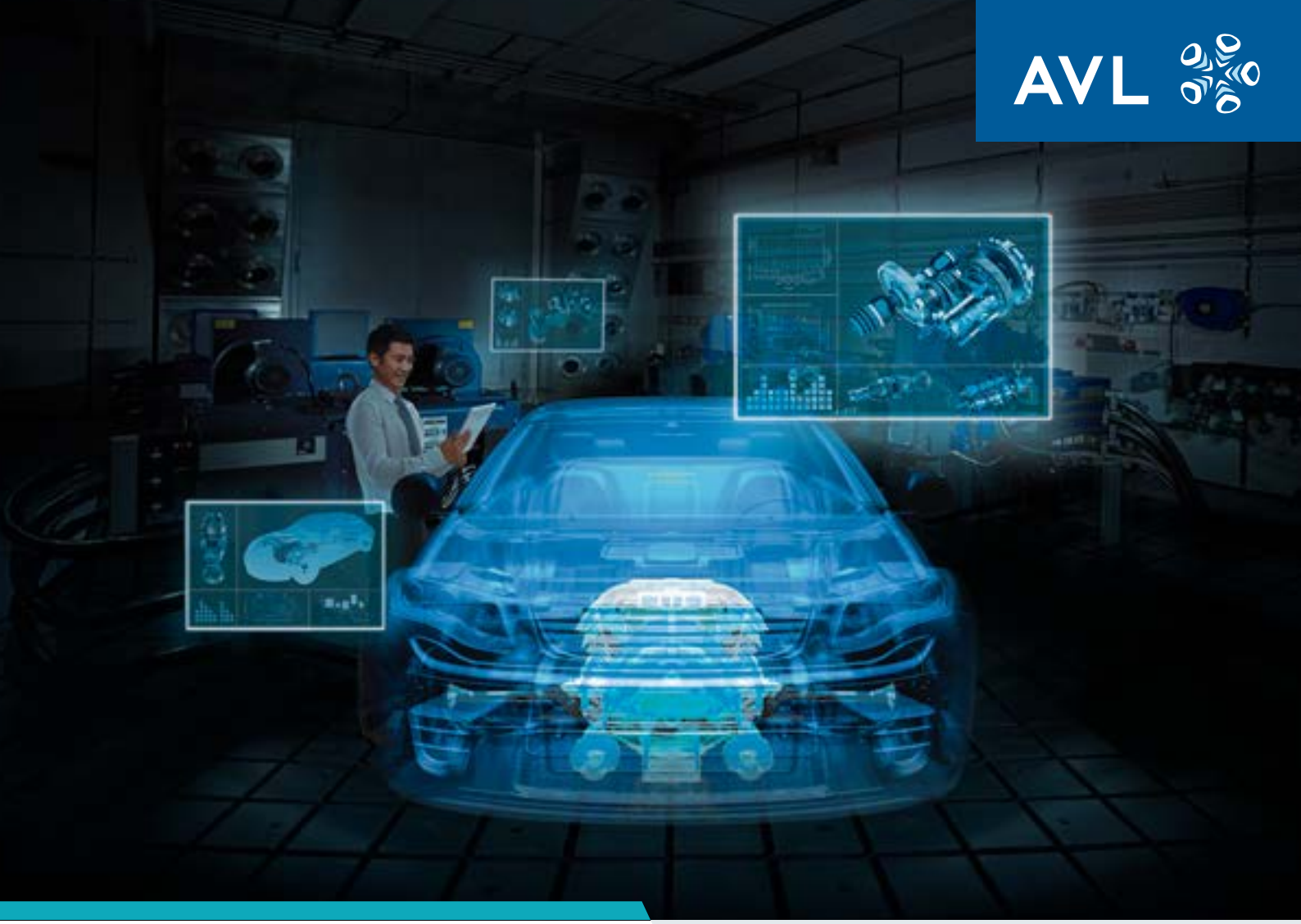
- After reception of the registration form, we will send you a confirmation message and an invoice. **Please indicate your Accounts Department address if necessary.**
- In case of cancellation before May 24th, 2017, 30% of the registration fees will be retained. **After this date, the entire registration fee will be retained.** Registered participants who are not able to attend may nominate a substitute. **Written notice must be provided.**



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