

**AUTOMOTIVE NETWORK OF
CREATIVE TECHNOLOGIES PROVIDERS**



Crédits photos : Rhône Alpes Automotive Cluster, MCE-5, Electrofil et Plastic Omnium

01 DBMetravib - Adetel - Aixam - Alstom - Altair - Alpes Deis - Araymond/Rayconnect - Bosch - CEA - Contitech - Derell - Dura automotive - E2V Semiconductors - EFS - Electricfil - Environne'tech - EVE Sytem - Fluorem - Forissier - GG Bearings - HEF - Hexcel - IFP - Inoplast - INSA - INRETS - JTEKT - L&L Products Europe - LMS Imagine - Marmonier - Martek Power - Matelys - MCE-5 - Mecatech Performances - Metaldyne - MGI Coutier - Nexans - NSI - NTN/SNR - Plastic Omnium - Porcher Industries - Radiall - Rhodia - Saint-Jean Industries - Sapaic - Schneider Electric - Sensorex - Sesaly - ST Microelectronics - Thermi Lyon - Total - Ullis - Vibratex - Vision Systems.

With the support of :



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**AUTOMOTIVE NETWORK
OF
CREATIVE TECHNOLOGIES PROVIDERS**
Intelligent Energy Management & Pleasure of Driving



Rhône Alpes Automotive Cluster i Lyon - France

www.automotive-cluster.fr

Intelligent Energy Management

INNOVATION - INTEGRATION - INTERNATIONAL

MILD/FULL HYBRIDS ELECTRICAL VEHICLES & INFRASTRUCTURE

- Electric Vehicles [Aixam]
- Battery calculators [EVE System, Adetel]
- Battery management systems [E2V Semiconductors]
- Smart battery sensors [Electricfil]
- Energy storage [CEA, IFP]
- Energy management [CEA, Electricfil, EVE Systems, Adetel, IFP]
- Energy recovery systems [IFP]
- Electric noise sources elimination [Vibratec]
- Intelligent battery chargers [EFS, EVE Systems, Adetel]
- Infrastructure chargers [CEA, Adetel]
- Electrical motors [Schneider Electric, Alstom]
- Energy converters [Martek Power, Adetel]
- Power electronics components [ST Microelectronics]
- CAN Tester & current recorder [Derell]
- Batteries composites housing [Plastic Omnium]
- Dedicated internal combustion engines [IFP]
- Vehicle integration [IFP]

LIGHTWEIGHT VEHICLE & NEW MATERIALS

- New composite materials [Rhodia, Inoplast, Plastic Omnium]
- Innovative body designs [Inoplast, Plastic Omnium]
- Aluminium chassis parts [Saint-Jean Industries]
- Accessories aerodynamism & weight reduction [Environne'tech]
- Light alloy parts for suspension arms, engine mounts... [Saint-Jean Industries]
- Innovative surface treatments [HEF, Thermi Lyon]
- Bidirectional strengthened coating [Hexcel]
- Composite materials [L&L Products Europe]
- Composite bearings [GGB]

FUEL EFFICIENT POWERTRAIN SOLUTIONS

- VCR gasoline engine to reduce fuel consumption [MCE-5]
 - Innovative powertrains [IFP]
 - New combustion Processes [IFP]
- Engine simulation software [LMS Imagine, IFP]
 - Injectors "Injetvision" test bench [EFS]
 - Diesel Common Rail Actuator for High Performance Injectors [Electricfil]
- SCR systems for urea additivition [MGI Coutier]
 - New aftertreatment technologies [IFP]
 - Euro 6 Particulate Matter Sensor for Exhaust Line [Electricfil, IFP]
 - STT Crankshaft and camshaft Sensors [Electricfil]
- Ballbearings Velocity pickups [NTN/SNR]
 - Intelligent sensors [Sensorex, Electricfil, CEA]
- Engine Air and Water Control Mecatronic Modules [Electricfil]
 - Development of control strategies [IFP]
 - Advanced calibration methodologies and tools [IFP]
- Aluminium, steel & iron casting turbo components [Saint-Jean Industries]
 - Electric power steering system [JTEKT]
- Diesel engine glow plugs [Bosch]
 - TC1 multifunctional additive for fuels [Mecattech Performances]
 - New fuels [IFP, Total]
 - Engine downsizing [Sapaic]
- LED components to reduce electricity consumption [Sesaly]
- Fluid transfer technologies [Contitech]
 - Catalysis materials for exhaust control systems [Rhodia]



Pleasure of Driving

STRATEGIES - TECHNOLOGIES - PRODUCTS

INTEGRATED ACTIVE AND PASSIVE SAFETY

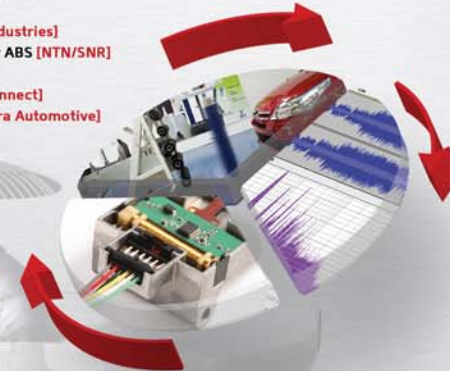
- Safety simulation software & driver assistance [INRETS, Altair]
- Pedestrian safety [Plastic Omnium]
- Design of front & rear modules [Plastic Omnium]
- Night vision [Ulis]
- Anti-mist & anti-dust treatment of windows [MGI Coutier]
- Airbags fabrics [Porcher Industries]
- Intelligent ball bearings for ABS [NTN/SNR]
- Intelligent Hydraulic Connexion [Araymond/Rayconnect]
- Driver control systems [Dura Automotive]

INTELLIGENCE COMMUNICATION & EMBEDDED ELECTRONICS

- Linear Displacement sensor [Sensorex]
- Mecatronic Modules [Electricfil]
- Passive electronic components and capacitors [Radiall]
- Multiplexing software, integration of embedded electronics [NSI]
- Cables [Forissier, Nexans]
- Vehicle to vehicle communication [Alpes Deis]
- Embedded computer and communication [Adetel]

VIBRATION AND NOISE EMISSIONS REDUCTION

- Vehicle accoustic optimization [Vibratec]
- Digital modelling & vibration simulation [Vibratec, O1 DBMetravib, Fluorem, Altair]
- Body insulation [Marmonier, Matelys]
- Structural mechanics & vibration R&D [INSA, Vibratec, Metaldyne]
 - Electrical noise reduction [Adetel, Vibratec]
 - Composite materials [L&L Products Europe]
- Acoustics comfort improvement [Environne'Tech]
- Multifunctional acoustic materials [Matelys]
- Development and manufacturing of aluminium hollow components for better NVH behaviour [Saint-Jean Industries]



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