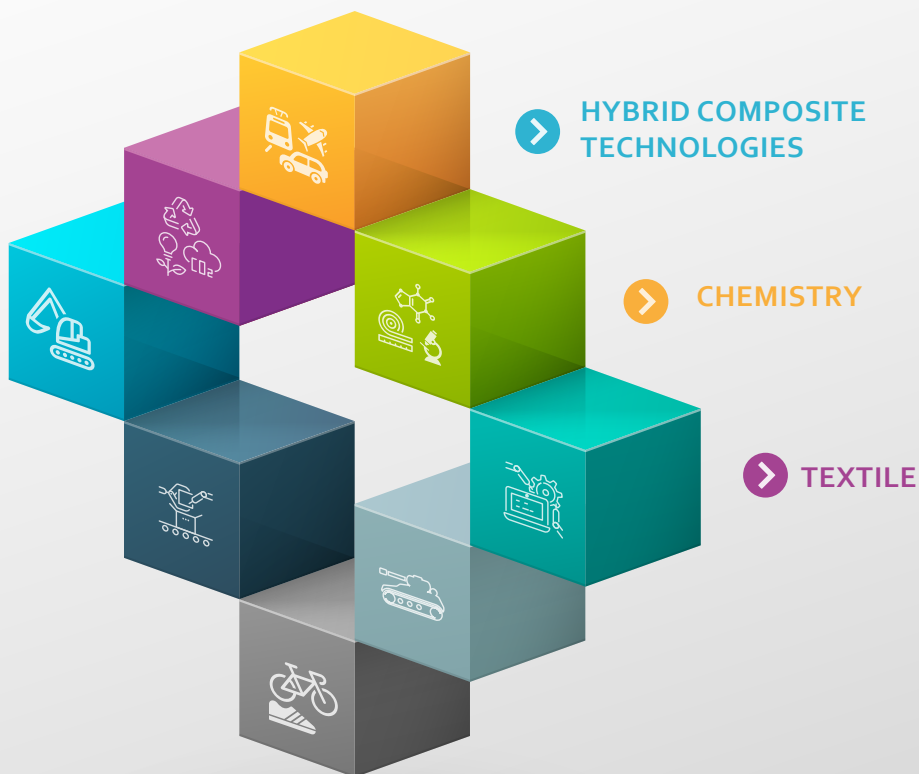




Composites

Auvergne-Rhône-Alpes



Hall 5, booth E70

JEC
WORLD
The Leading International
Composites Show



Summary

- Who are we?3
- Auvergne-Rhône-Alpes Region, the composites industry excellence area4
- A project dynamic at each step in the value chain5
- Projects showcase6
- Axelera12
- Cimes13
- Polymeris14
- Techtera15
- DMM-CLM 416
- Marduel 517
- Metravib 318
- PMA 219
- Sopara 620
- TF Études 121
- Tisstech 722
- Discover other companies on JEC world23



Who are we?

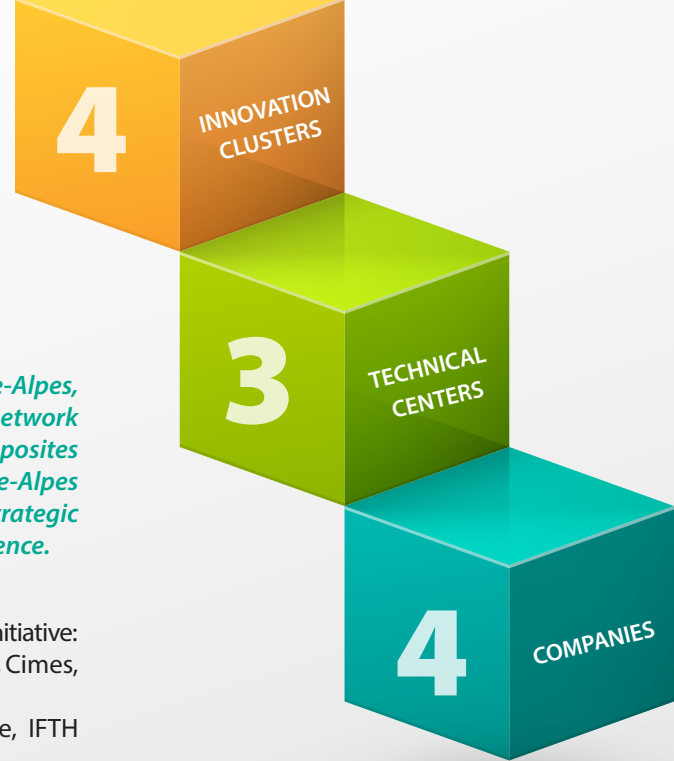
Composites Auvergne - Rhône-Alpes, created in 2009, is a French network gathering key players of the composites industry in the Auvergne - Rhône-Alpes Region and focused on two strategic domains: innovation and excellence.

Eleven partners are behind this initiative:

- 4 innovation clusters: Axelera, Cimes, Polymeris and Techtera,
- 3 technical centers: Axel'One, IFTH and IPC,
- 4 companies: Chomarat, Hexcel, Plastic Omnium and Solvay.

This network was created thanks to the gathering of four industries, associated to composites, having a significant position in Auvergne - Rhône-Alpes region: chemistry, textiles, plastics and the mechanical industry.

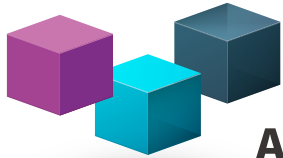
The Auvergne - Rhône-Alpes region gathers significant advantages: an integrated industry, world leaders, an active R&D policy and very dynamic clusters.



The Composites Auvergne - Rhône-Alpes technological domains offers development on growing markets in the composites industry such as:

- thermoplastic composites technologies,
- high-speed and high quality manufacturing processes,
- assembling and multi-materials joining, technologies and processes,
- finishing and painting of composite parts,
- recycling technologies.





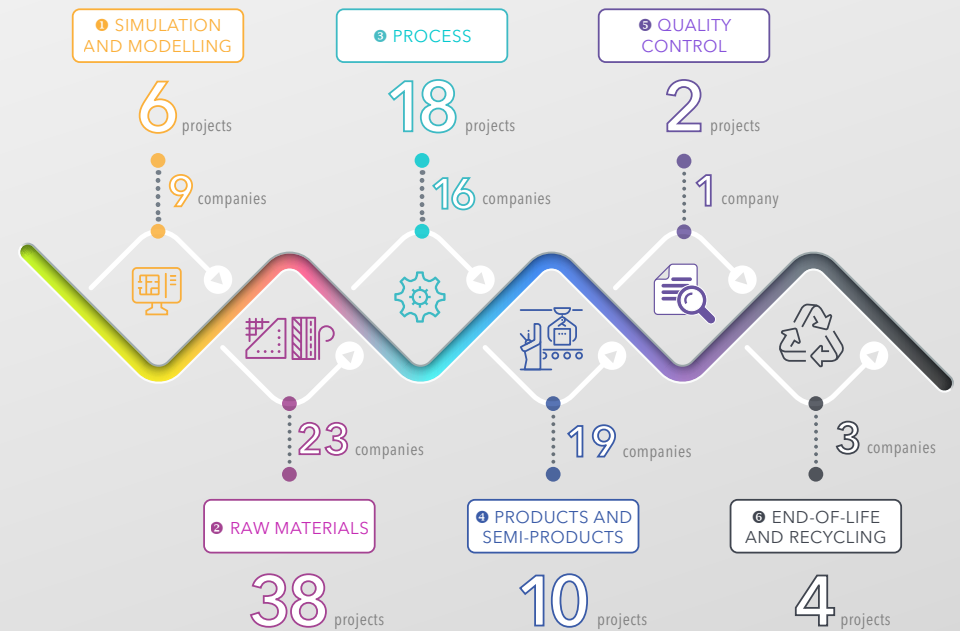
Auvergne-Rhône-Alpes Region, the composites industry excellence area

WITH MORE THAN 100 MEMBERS, INCLUDING INDUSTRY, ACADEMIC, AND R&D PLAYERS, AMONG THE 4 CLUSTERS REPRESENTING COMPOSITE AUVERGNE-RHÔNE-ALPES NETWORK, THE REGION GATHERS A SIGNIFICANT AND ACTIVE COMMUNITY IN COMPOSITE SECTOR.

THIS INDUSTRY OFFERS YOU A HIGH LEVEL OF INNOVATION AND OF INDUSTRIAL CAPABILITY, SUPPORTING YOUR PROJECTS IN COMPOSITES, AND COVERING THE WHOLE VALUE CHAIN, FROM RAW MATERIAL UP TO FINAL PRODUCT.



A project dynamic at each step in the value chain





Projects showcase



AUTOMOTIVE / AERONAUTIC



- Project coordinator: AMZ Sachsen
 - Funding: Cosme Go International
 - Project completed
- European Lightweight Cluster Alliance, international strategy for SMEs for lightweight solutions in 4 mobility sectors (aero, auto, rail, maritime) .



- Project coordinator: TPAC
 - Funding: Interreg North-West
 - Estimated end: 2023 • 4 < TRL < 7
- Novel advanced materials solutions for affordable lightweight to meet auto and aerospace maker's need.



- Project coordinator: Chomarat
 - Project completed • 4 < TRL < 7
- Develop a new generation of Non-Crimp Fabric based on carbon fiber and associated textile processes for the manufacture of thermosetting composite parts.



- Project coordinator : Extractive
 - Project completed • TRL 6
- Offer a new and viable solution to substitute steel containing CRM and primary carbon fibres in the automotive industry through the recycling of CFRPs to obtain high quality carbon fibres. Recycled carbon fibres have lower price and carbon footprint and are ideal for applications where rigidity and lightweight are required. The project will prove the competitiveness of the thermosolvolysis proposed up to market introduction.



- Project coordinator: Airbus
 - Project completed • 4 < TRL < 7
- Develop thermoplastic materials operated by automatic draping in accordance with the requirements of REACH.



Highly Automated Integrated Composites for Performing Adaptable Structures

- Project coordinator : Hexcel / Arkema
 - Project completed • 4 < TRL < 6
- Optimization of the UD Tapes design and manufacturing process in view of their use in highly productive, cost competitive, composite part production. Development of a highly productive UD Tape placement technology with the ability to assemble final parts by welding and control the final part quality in line.



- Project coordinator: Solvay
 - Project completed • 4 < TRL < 7
- Optimization of simulation and use of composites behavior aged in a water / glycol medium.

NHYCCO



- Project coordinator: Billion Mayor Industrie
 - Project completed • 4 < TRL < 7
- New hybrid yarns for protective clothing and composites applications with high performances.

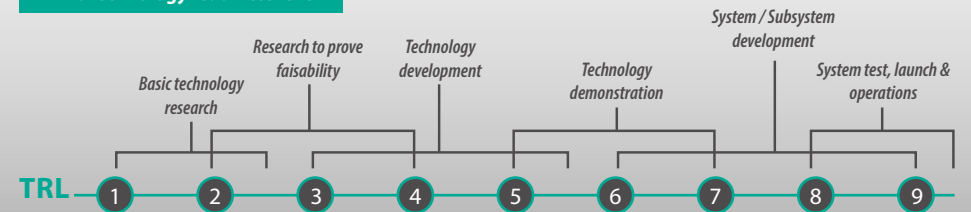


- Project coordinator: Chomarat
 - Estimated end: 2025 • 4 < TRL < 7
- Developing a carbon weaving machine by converting an existing NCF glass line into a line dedicated to the production of unidirectional carbon reinforcements.



- Project coordinator: VITO
 - Funding: LIFE Program under grant agreement N° LIFE20-ENV-BE-000671
 - Estimated end: 2025 • TRL 5
- Valorisation of lignin biomass into competitive components gradually replacing BPA in the formulation of epoxy resins.

TRL : Technology readiness level





Projects showcase

**AUTOMOTIVE /
AERONAUTIC /
ENERGY / BUILDING**

**SECURITY
& DEFENSE**



- Project coordinator: TU Chemnitz
- Funding : European Union's Horizon 2020 research and innovation programme under grant agreement N° 101005435

• Estimated end: 2024 • TRL 7
Business framework with demonstration projects, training and coaching on the field of 3 type of materials (polymer-based composites, ceramic matrix composites, light metal alloys) for 4 industrial markets (automotive, aerospace & aeronautics, energy, building).



- Project coordinator : IMP, Insa Lyon
 - Estimated end: 2023 • TRL < 4
- Nano-structured composites materials for electromagnetic radiation absorption.**



- Project coordinator : Techtera
- Co-financed by the COSME programme of the European Union
- Estimated end: 2023

Support the internationalisation of European SMEs in technical textiles, connectivity, advanced technologies and advanced materials. The project targets in particular the dual-use (civil and military) security and defence markets in four countries: the United States, Canada, Japan and Indonesia.



ARCHITECTURE / INFRASTRUCTURE & CIVIL ENGINEERING

RESOL



- Project coordinator: Polyloop
 - Estimated end: 2024 • 5 < TRL < 7
- Develop a recycling solution for PVC textile composites to produce recycled PVC that can be used in plastisol coating processes.



- Project coordinator: CCB GREENTECH
 - Estimated end: 2024 • 5 < TRL < 9
- Development of a new wood concrete material for the modular construction market, which consists of making modules in a factory and then assembling them on site.

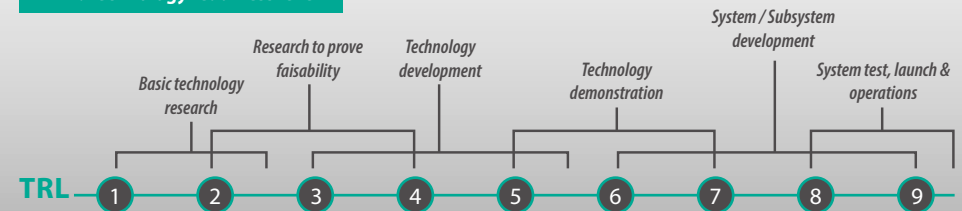


- Project coordinator : Contactica
 - Estimated end: 2025 • 4 < TRL < 7
- CALIMERO is a European Project whose goal is to create a common framework for the Life Cycle Assessment methodologies of certain bio-based industries.



- Project coordinator: ATG Composite
 - Estimated end: 2023 • 5 < TRL < 6
- Develop a production line for composite reinforcements, with hybrid, multifunctional mineral matrix textile reinforcements for construction sector.

TRL : Technology readiness level





Projects showcase



- Project coordinator: IMT Mines d'Ales
 - Project completed • TRL < 4
- Develop a controlled release flame retardant system based on linear low density polyethylene/ethylene-vinyl acetate copolymer (LLDPE/EVA) blends dedicated to the cable industry.



- Project coordinator: Sulitec
 - Project completed • 4 < TRL < 7
- Develop composites with textile reinforcements in order to fix damaged concrete structures.



- Project coordinator: Ateca
 - Project completed • 4 < TRL < 7
- Development of innovative sports equipment solutions for better vibration & shock damping to protect human tissue.



- Project coordinator: Politecnico di Milano
 - Estimated end: 2026
- REcycling technologies for Circular REuse and remanufacturing of fiber-reinforced composite mATERials.



- Project coordinator: AITIIP
 - Funding: European Union's Horizon 2020 research and innovation programme under grant agreement n° 101096425
 - Estimated end: 2026 • 4 < TRL < 7
- Propose and demonstrate novel solutions to recycle high value materials from the wind turbine blades, developing a set of innovative composite material recycling technologies.



- Project coordinator: Next Technology Tecnotessile
- Co-financed by the COSME programme of the European Union
- Estimated end: 2024

Support the internationalisation of European SMEs whose activities are related to the manufacture of composites from recycled materials, particularly textiles. A joint internationalisation strategy will be developed and tested, targeting three countries: the USA, Japan and Singapore



- Project coordinator: AITIIP
 - Funding: European Union's Horizon 2020 research and innovation programme under grant agreement n° 101057049
 - Estimated end: 2026 • 3 < TRL < 6
- Ensure a sustainable uptake (increase the use by 39%) of bioplastic composites, by driving a double green and digital transformation in the European manufacturing industry.



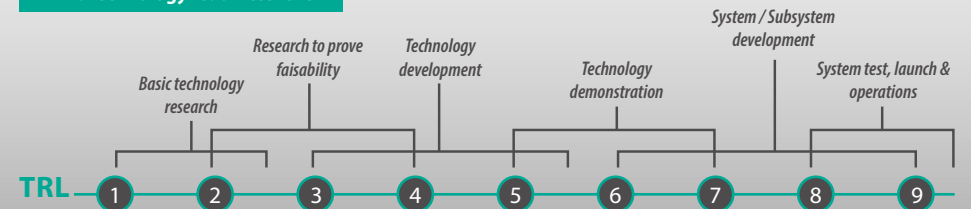
- Project coordinator: Profactor
 - Estimated end: 2025 • 3 < TRL < 6
- MC4 (Multi-level Circular Process Chain for Carbon and Glass Fibre Composites) is a European partnership aiming to establish circular approaches for carbon and glass fibre composites. After a 3 years implementation, MC4 will make the European carbon and glass fibre value chains more circular, independent and competitive.



- Project coordinator: Plastinov
 - Project completed • 4 < TRL < 7
- Develop and implement innovative composites for the making of lighter, cost-efficient and recyclable large dimension equipment used in offshore wind power (blades, nacelles).



TRL : Technology readiness level





Axelera cluster is a network of 417 members, connecting companies (large, medium-size and small), research laboratories as well as training organizations in the field of chemistry and environment.

Axelera members are extremely well-rounded, with experience and know-how in a wide array of markets and disciplines:

- production of raw materials and energy,
- production of chemicals, materials, and recycled products,
- manufacturing,
- collection, treatment, and recycling of effluents and waste,
- parts and equipment manufacturers, consumables suppliers,
- engineering services providers, assemblers, integrators,

- industrial services: process design and optimization, energy efficiency, regulatory, compliance
- environmental services: water, air, soil, waste
- chemistry, environmental technology, and biotechnology labs, technical centers, and R&D service providers,
- private-sector financing,
- training providers.

Since 2011, its Axel'One platform has brought together academic partners, VSEs and SMEs and industrial companies around shared research tools.



*Solène BOUVIER, Innovation project manager +33(0)6 08 09 16 01
solene.bouvier@axelera.org*

Cluster specialised in conception, production and integration for mechanical intelligent systems.

Cimes is a competitiveness cluster devoted to design, production and integration of intelligent mechanical systems.

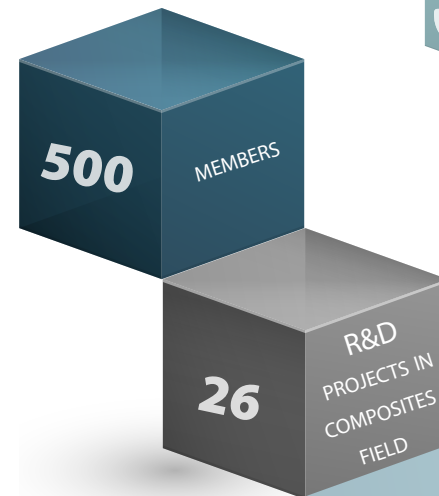
Cimes animates the communities (academic and industrial) on the topic of additive manufacturing (tools / injection molds un particulier).

Cimes collaborative projects deals with several scientific areas:

- engineering for manufacturing, materials and surfaces,
- integrated robotic and productive efficiency,
- optimised engineering for sustainable systems.



*Franck SIMON, Thematic manager
+33(0)6 42 43 80 13
f.simon@cimes-hub.com*





Polymeris is the only French cluster dedicated to rubbers, plastics and composites gathering more than 530 members, among them 330 industrial companies and 135 R&D centers and universities.

Polymeris draws on 15 years of expertise and experience in supporting businesses, with in-depth knowledge of the techniques and markets of tomorrow. Polymeris promotes and develops Innovations for rubbers, plastics and composites industries, thanks to collaborative R&D projects with around 300 funded projects and more than 35 european ones. In addition to this activity, Polymeris promotes innovation in education and opens up the companies toward different industriel sectors and international cooperation.

Its main technological added value domains are:

- advanced materials with high mechanical performance for lightweight, functional and smart properties,
- factory of the future as fast automated composite processes including additive manufacturing,
- smart products with integrated electronics for mobility, health, packaging, goods,
- circular and sustainable solutions thanks to high performance bio-based materials, eco-design and recycling loop.



Hiba FEKIRI, Project manager, advanced materials & composites
+33 (0)6 42 64 53 75 - hiba.fekiri@polymeris.fr

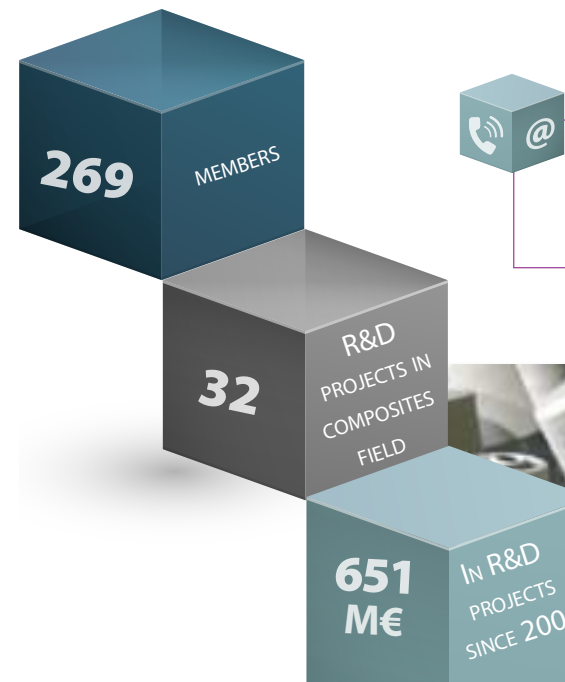
Techtera, innovation cluster for the French textile industry.

The cluster runs a network of more than 269 members (companies, research laboratories, technical centers, universities and schools) with the main objective of boosting competitiveness through collaborative innovation and market access. It has labeled 267 R&D projects that received fundings for a budget of 651 million €.



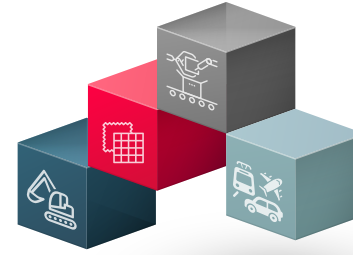
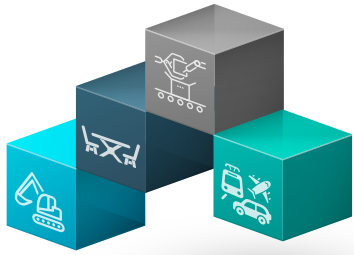
The cluster also supports its members through:

- Techtera organizes and leads workshops and working groups to design textile innovations that meet the technological and economic challenges of the textile industry (recycling-circular economy, 4.0 industry in textile, smart textiles). The cluster supports these collective strategies, from the emergence of projects to the marketing of innovative products and services.
- Business development: business launching of innovative products, international support, business opportunities through textile database (CART'EX).



Valentin NALLET,
Project manager - Business development
+33(0)4 20 30 28 80
vnallet@techtera.org





SINCE 1990, DMM/CLM (ISO 9001) LOCATED IN OYONNAX DEVELOPED AND ESTABLISHED THEMSELVES AS PRIMARY SPECIALISTS IN THE DESIGN AND PRODUCTION OF MOLDS (UP TO 50T/6 METERS) FOR THE TRANSFORMATION OF PLASTICS AND COMPOSITES, AS WELL IN THE MAINTENANCE AND REPAIRS, IN FRANCE AND INTERNATIONAL.

Application areas

Structurals parts for lightweighting in transports as Automotive, trucks, railways, buses, aeronautics. Equipments for industry, leisure, sports, packaging, containers, transport and energy distribution.

Products

Our molds are constructed for the transformation technology for which they are intended and designed in line with our production methods. We bring all of our added value to find solution to facilitate use and interchangeability in the lifetime based on criteria talked in the requirements. We can manage try outs & pre production of parts : injection moulding mono or 2K (50-2200T), SMC (1200-1800T).

Innovations

Based on our experience, we are involved in projects for vehicle lightweighting incorporating the following technologies: SMC for thermosets, and organo sheet overmoulded for thermoplastics (hatch back, structural parts...).



FOR OVER 60 YEARS, MARDUEL HAS SPECIALIZED IN PROCESSING TECHNICAL YARNS TO STRENGTHEN INDUSTRIAL PRODUCTS SUCH AS COMPOSITE, HOSES OR MANY OTHER HIGH VALUE-ADDED APPLICATIONS. BY TWISTING, CABLING, WINDING, COATING, MARDUEL DEVELOPS AND MANUFACTURES NEW YARNS THAT FULFILL ITS CUSTOMER'S NEEDS.

Application areas

Composite, aeronautics, automotive, PVC & rubber reinforcement, paper & leather industries, mechanical industry, packaging, textile, construction...

Products

Technical Yarns manufacturer by twisting and winding

- From 500 dtex to 100 000 dtex
- High tenacity yarns, Aramids, Carbon, Glass, basalt...
- Hybrid yarns
- Tailor-made products
- Extensive quality control check
- Traceability

Innovations

Marduel offers advice and technical support dedicated to innovation. This expertise allows the company to be approached for research by famous names of the aeronautics and automotive industries. A dedicated twisting carbon, glass and basalt workshop enables to meet needs of prototyping and large scale production.



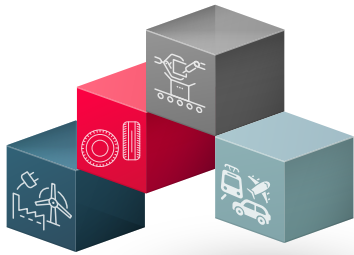
Jean-Michel BREUX +33 (0)6 07 65 89 02
jm.breux@dmmclm.fr

www.dmm.fr



Marie-Alice MARDUEL +33 (0)4 74 68 10 06
info@marduel.fr

www.marduel.fr



METRAVIB DEVELOPS AND MARKETS DYNAMIC MECHANICAL ANALYSERS (DMA) DEDICATED TO THE CHARACTERISATION OF VISCOELASTIC PROPERTIES OF MATERIALS (RUBBERS, ENGINEERING PLASTICS, COMPOSITES). FROM DESKTOP COMPACT DMA TO THE MOST ADVANCED AND FULLY AUTOMATED DMA, METRAVIB PROVIDES TESTING SYSTEMS ADAPTED TO ALL MATERIALS CHARACTERIZATION NEEDS.

Application areas

Automotive, aeronautic, aerospace, energy, tire, thermoplastics, thermosets, composites, elastomers.

Products

DMA25 and DMA50 are “desktop” DMA offering a very cost-effective thermomechanical testing platform and outstanding flexibility.

High end instruments DMA+ series are dedicated to the accurate analysis of the viscoelastic properties of most advanced materials, allowing fatigue testing.

Innovation

Metravib markets a new software (Dyna+) that makes possible an extended variety of DMA tests. Using the Fatigue or Temporal signals module, the testing capabilities can be enlarged to go further in the mechanical analysis of materials.



PLASTURGY MATERIAL ADVANCE IS THE EXCLUSIVE AGENT FOR FRANCE OF EUROPEAN COMPANIES AMONG WHICH THE GERMAN COMPANY GEISS AG. GEISS AG OFFERS COMPLETE SOLUTIONS FOR PLASTICS AND COMPOSITES PROCESSING WITH THE DESIGN AND CONSTRUCTION OF PRESSURE FORMING MACHINES, CNC MACHINING CENTRES, AS WELL AS MODEL, TOOL AND MOULD MAKING FOR THESE MACHINES.

Application areas

Aeronautics, automotive, motorbikes, agricultural machinery, packaging, travel suitcases, furniture, advertising signs, sport (surfboard...), building, lighting, sanitary ware.

Products

- CNC machining centres : portal milling machines, ultrasound cutting or laser cutting machines.
- Pressure vacuum forming machine T10 or Ts1 series with high dynamic servomotors by Siemens, halogen heater elements, centralized air fan system, and quick set up times allowed by fixed tool clamp system.

Innovations

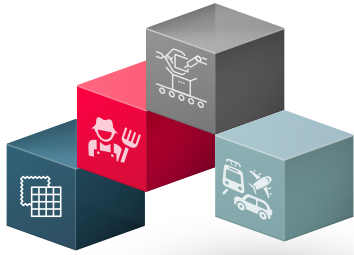
CNC portal trimming machine equipped with Sinumerik One : revised HMI Software Operate, NCU 1740 with integrated PLC S7-1500F, Safety Integrated Plus. Sinamics S120 drive technology of the latest design equipped with multi-touch wide screen monitor, new generation of permanently backlash-free ball screws, remote-controlled motor driven front doors.



Brice TAILLET +33 (0)6 60 30 34 33
brice.taillet@acoem.com
www.metravib-design.com



Pierre MOREL + 33 (0)4 78 25 68 28
contact@pma-onlines.com
www.geiss-ttt.com



SOPARA

SOPARA IS ONE OF THE WELL-KNOWN LEADERS FOR INFRARED EQUIPMENT, ESPECIALLY DEDICATED TO NEW TECHNOLOGIES IN THE FIELDS OF COMPOSITE MATERIALS, AUTOMOTIVE AND TEXTILE AND IS ALSO VERY ACTIVE IN ALL INDUSTRIAL FIELDS. WITH ITS OWN IN-HOUSE R&D DEPARTMENT AND A TESTING LABORATORY, SOPARA DESIGNS AND MANUFACTURES CUSTOM-MADE SOLUTIONS.

Application areas

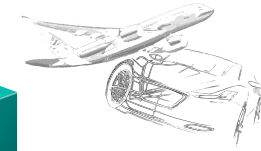
Composite materials, textile, automotive, aerospace, paint, agri-food industries.

Products

- Short-wave infrared heaters (for heating of materials or industrial premises),
- high performance medium-wave infrared heaters,
- curing and drying infrared ovens,
- thermoforming infrared ovens,
- non-woven textile heating infrared ovens,
- energy saving and high performance products,
- power control cabinet.

Innovations

- Thermoplastic melting ovens to prepreg carbon fibers up to 450 ° C.
- New infrared heaters for heating with perfect homogeneity thermoplastic composite plates for the aerospace industry.



TF ETUDES

TF ÉTUDES IS BASED IN OYONNAX PLASTIC VALLÉE SINCE 1990. OUR TEAM IS SPECIALIZED IN PRODUCT DESIGN, ASSEMBLY TOOLS, SPECIFIC TOOLS AND CHECKING FIXTURES. AFTER 30 YEARS, WE ARE SUB-SUPPLIER OF FIRST STEP AUTOMOTIVE INDUSTRY SUPPLIER AND AERO INDUSTRY. WE ARE IMPLEMENTED IN DIFFERENT KIND OF MARKET WITH SPECIALIZATION IN PRODUCTS DESIGN. DESIGN, MANUFACTURING, CONTROL, TUNING AND ASSEMBLY ARE PART OF OUR KNOWLEDGE AND READY TO FOLLOW YOU DURING YOUR DEVELOPMENT. OUR MACHINES ARE USED ALL OVER EUROPE ON OUR CUSTOMER PLANTS.

Application areas

Automotive, aeronautics, nuclear, energy, defense, medical.

Products

Specialized in the design and production of:

- inspection jigs,
- checking fixtures,
- leakage inspection tools,
- production tools,
- assembly tools: hot plate welding, vibrations welding, infra-red welding,
- special machines.

Innovations

- Development and manufacture of custom infrared sources.
- Integration of collaborative robot, integration of automatic screwing and vision control, sealing control tools.



Pierre PINET +33 (0)4 72 81 23 00
ppinet@sopara.com

www.sopara.com



Lionel BERNARD +33(0)4 74 77 78 82
l.bernard@tfetudes.fr

www.tfetudes.fr



Discover other companies on JEC world



LOCATED IN RHÔNE ALPES AUVERGNE AND WITH NEARLY 50 YEARS OF EXPERIENCE TISSTECH IS INVOLVED IN THE DESIGN, DEVELOPMENT AND MANUFACTURE OF TEXTILES FOR TECHNICAL PURPOSES. WE ARE CREATOR OF INDUSTRIAL TEXTILE PRODUCTS. OUR STRENGTH? OUR REACTIVITY. EXPERTISE, KNOW-HOW AND INNOVATION MADE IN FRANCE GUARANTEE OUR QUALITY.

Application areas

An international presence and a great industrial reactivity in order to respond with precision to any specific request. We develop custom-made solutions for different industrial sectors : aeronautics, composite industry, electrical, rail, automotive, iron&steel, nuclear, maritim...



Products

- Customized and adapted support thanks to an efficient integrated production tool: R&D, warping, weaving, impregnating/coating composites, cutting, clothing industry/processing.
- Our product catalog is representative of all the developments carried out in collaboration with our customers : tapes for electrical insulation, prepregs fabrics, reinforcement grid...



Innovations

We are able to develop any type of weaving. Come to our stand in order to discover our innovations!



- 3IDTEX, Hall 5 - Booth B56 
- ACD NOUVELLE AQUITAINE, Hall 6 - Booth F73 
- ACXYS TECHNOLOGIES, Hall 5 - Booth N80 
- ARKEMA, Hall 5 - Booth V39 
- CALYXIA, Hall 6 - Booth N4 
- CANOE, Hall 6 - Booth F73  
- CERO, Hall 6 - Booth K76 
- CHOMARAT, Hall 5 - Booth J42 
- CLAYENS, Hall 6 - Booth N6 
- CQFD COMPOSITES, Hall 6 - Booth Q80 
- CULTURE IN, Hall 5 - Booth A51 
- DEMGY GROUP, Hall 5 - Booth B46 
- DEV'UPCENTRE-VAL DE LOIRE, Hall 6 - Booth R57 
- DIATEX, Hall 5 - Booth J23 



David PLANTEVIN +33 (0)4 77 39 65 36
d.plantevin@tisstech.fr

www.tisstech.fr



Discover other companies on JEC world



- ELKEM SILICONES, Hall 5 - Booth F86  
- EMANUEL LANG, Hall 5 - Booth C51 
- ENSAIT (École nationale supérieure des arts et industries textiles), Hall 6 - Booth J89 
- EPSILON COMPOSITE, Hall 6 - Booth F6 
- EUCLIDE SOLUTION, Hall 6 - Booth B80 
- EXTRACTHIVE, Hall 6 - Booth N4   
- HEXCEL COMPOSITES, Hall 5 - Booth J41 
- HUTCHINSON, Hall 6 - Booth F5 
- IPC (centre technique industriel de la plasturgie), Hall 5 - Booth R76  
- L&L PRODUCTS, Hall 5 - Booth N16 
- METRAVIB, Hall 5 - Booth E70 
- POLYVIA, Hall 5 - Booth R76 
- PORCHER INDUSTRIES, Hall 5 - Booth V40 
- RESICARE, Hall 6 - Booth C65 
- ROCTOOL, Hall 6 - Booth C52 
- SOLVAY, Hall 5 - Booth M41-M55  
- TEXINOV TECH, Hall 5 - Booth A55  
- TERAHALIS, Hall 6 - Booth B60 
- TORAY CARBON FIBERS EUROPE, Hall 5 - Booth J5 





Pôle de compétitivité
Chimie-Environnement
Auvergne-Rhône-Alpes
Rond-point de l'échangeur
Les levées
69360 Solaize



Pôle de compétitivité
Ingénierie et Manufacturing
pour les Systèmes
Mécaniques Intelligents
750 Avenue de Colomby
74300 Cluses



Pôle de compétitivité des
caoutchoucs, plastiques
et composites
Maison des Entreprises
180 rue Pierre et Marie Curie
CS 50004 – Bellignat
01117 Oyonnax Cedex



Pôle de compétitivité
Filière Textile Française
91 bis chemin des Mouilles
69130 Écully

