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MEET THE BATTERY INDUSTRY FROM AUVERGNE-RHÔNE-ALPES REGION - FRANCE MAY 2023 THIS BOOKLET IS PUBLISHED ON THE OCCASION OF THE AUVERGNE-RHÔNE-ALPES COMPANIES LEARNING EXPEDITION ON THE EUROPEAN BATTERY SHOW IN STUTTGART IN MAY 2023 THE MISSION IS ORGANISED IN PARTNERSHIP WITH REGIONAL COMPETITIVENESS CLUSTERS AND BADEN WÜRTTEMBERG REGION



Auvergne-Rhône-Alpes

2



With the global demand for batteries expected to increase tenfold by 2030, the strategic nature of the industry is becoming increasingly clear. The industry is already well established in the Auvergne-Rhône-Alpes region and will be represented by our regional delegation at the European Battery Show. The show, which will be held from 23 to 25 May 2023 in Stuttgart, is the European event dedicated to the entire battery supply chain.

The regional delegation led by the Auvergne-Rhône-Alpes Enterprises Agency will bring together companies that are the driving forces of the sector in the region, in partnership with the TENERRDIS, CARA and AXELERA competitiveness clusters. These companies benefit from daily support from the Regional Economic Agency, which is committed to supporting and promoting the companies in our beautiful region. The Agency's mission is also to support companies wishing to set up in Auvergne-Rhône-Alpes. Our region owes its dynamism to innovative companies and start-ups spread over the entire battery value chain. There are more than 150 companies working in the battery sector.

While France expects to create 150,000 jobs in the battery industry, the Auvergne-Rhône-Alpes region is the leading French industrial region. Our region is ready to meet the growing recruitment needs in the sector thanks to a rich network of training courses linked to the sector. In addition, the region hosts the battery school, a unique public initiative in France, which plans to train 1,600 engineers or technicians by 2025.

Franck COLCOMBET, President of the Management board of Auvergne-Rhône-Alpes Entreprises

# **SUMMARY**

Meet the battery industry eco-system from Auvergne-Rhône-Alpes region

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# 1. INTRODUCING AUVERGNE-RHÔNE-ALPES ECOSYSTEM

# **AUVERGNE-RHÔNE-ALPES, A DYNAMIC REGION**

With 8 million inhabitants and a GDP that places it to the 8th rank in Europe, Auvergne-Rhône-Alpes is the first industrial region in France.

The region is rich in innovative and competitive expertise: energy, mobility, aeronautics, construction, digital and electronics, health, chemicals, agriculture/food and forest, sports/mountain/tourism, mechanics/metallurgy/machines/robotics, plastics, luxury, textiles.

With major research centers on a global scale and 22 clusters, it ranks 2<sup>nd</sup> in France for the number of patents applications and have a great innovation potential.

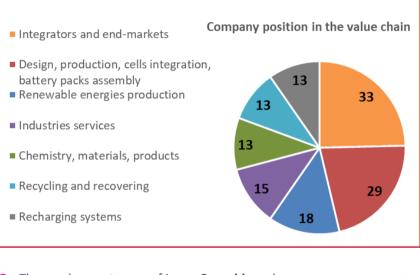
The strategic location of Auvergne-Rhône-Alpes opens the door of Europe with Italy, Switzerland and Germany.

Thank to its assets, it is the 2<sup>nd</sup> most attractive region of France for foreign investments.



# BATTERY SECTOR IN AUVERGNE-RHÔNE-ALPES: COMPANIES OPERATING THROUGHOUT THE ENTIRE VALUE CHAIN

### 149 companies of which 50% are SMEs work in the battery sector in Auvergne-Rhône-Alpes.





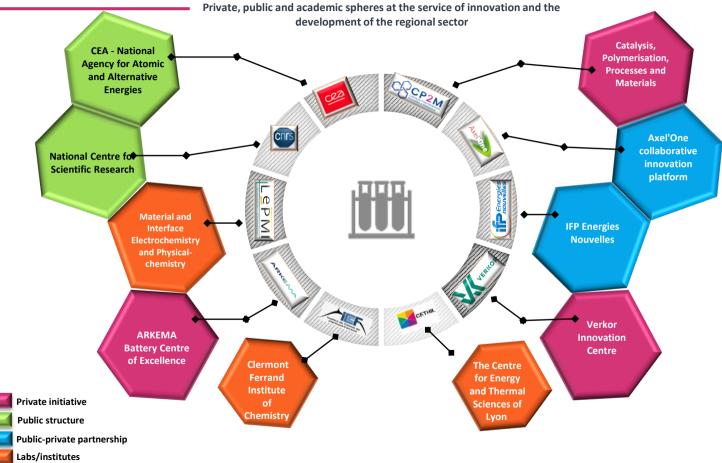
Verkor Innovation centre

The employment areas of Lyon, Grenoble and Chambery account for 72% of regional businesses in the sector. Businesses in the region mostly define their activity as integration into vehicles and design/production/cell integration and battery pack assembly.

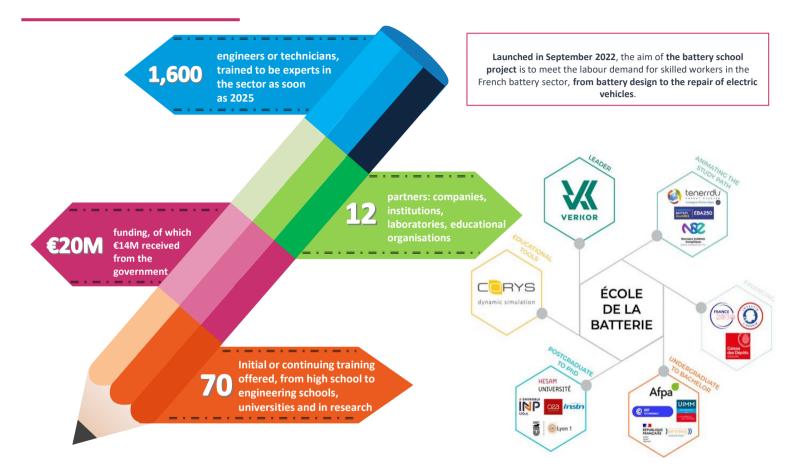
# EXAMPLES OF THE REGIONAL INNOVATIVE COMPANIES REPRESENTING THE ENTIRE BATTERY VALUE CHAIN



# MAIN RESEARCH AND INNOVATION ORGANISATIONS



## THE BATTERY SCHOOL: A UNIQUE PUBLIC INITIATIVE IN FRANCE



### **RECENT COLLABORATIVE RESEARCH AND INNOVATION PROJECTS**

Private actors and public structures working together to develop the regional sector

#### Mecaware/Verkor

Construction of an industrial unit for the recycling of waste from the production of *giga-factories* and the reincorporation of metals into the value chain

> Recycling and recovery

#### Linksium/CNRS

Management of the consortium (batmat) aimed at developing new generation batteries, specifically through amplifying and promoting research work for the battery sector

> Technology transfer

#### Lepmi/Blue Solution

Development of an "allsolid" battery with better recyclability, better performance with optimised charging and a more affordable cost.

> Autonomy and security

#### Arkema/CNRS/CP2 M/CPE Lyon

Launch of a labcom (IHub Poly-9) dedicated to the design of new materials for future battery generations

> Performance and efficiency

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# EXAMPLES OF INNOVATIVE REGIONAL PROJECTS: ECOLOGY, EFFICIENCY AND CONNECTED OBJECTS

# 1

## Magreesource

A new technology that helps produce industrial magnets from recycled magnets, more specifically using additive manufacturing processes to limit losses. The company is planning to recycle 50 tons of rare earth magnets every year.

3

# Injectpower

Rechargeable, miniature and high energy density micro-batteries destinated to supply energy more efficiently to implantable and connected medical devices. These batteries should provide more accurate and reliable biometric data collection.



# Limatech

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A new generation of lighter, smarter and more durable batteries for sustainable mobility in aeronautics. A production site is under construction and will eventually produce 30,000 battery packs.

### BeFC

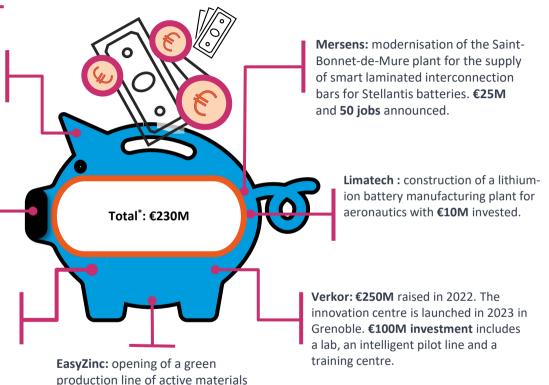
An innovative paper-based and enzyme-based battery (bio-battery) for connected objects (IoT). As it is biodegradable, it can supply electricity to low-power disposable electronic devices such as connected medical devices or sensors used in logistics/transport.

## **MAIN PRIVATE INVESTMENT OPERATIONS IN 2022**

ITEN : €80M invested via
 "SPI2"project with the creation of
100 jobs with the aim of
accelerating the industrialisation of
recyclable and rechargeable lithiumion micro-batteries.

Mecaware: installation of a pilot line for the recycling of scrap batteries in the VERKOR innovation centre (VIC). Over €15M will be invested (Scrap CO2MET Project).

Imerys: launch of a lithium mining project in the Allier department. The site should start operation in 2027 after a total investment of €1bn and the creation of 300 direct jobs.

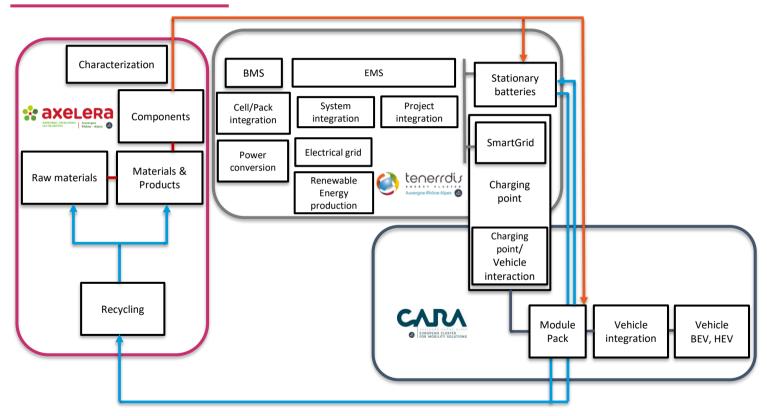


for the design of zinc batteries. Creation of **20 jobs** with **€8M** 

invested.

\*Source: Trendeo data

# **3 COMPETITIVENESS CLUSTERS COMMITED TO SUPPORTING THE REGIONAL BATTERY SECTOR**





# **2. EXHIBITING COMPANIES**

# **ARaymond**



**Contact : Jean-Pierre Faure** Innovation marketing manager www.araymond.com/en

Booth 10 - E90

#### **EXPERTISE, BUSINESS OFFER :**

Our "Solutions for Mobility" : Fastening solutions, Quick connectors and fluid delivery lines, Cooling plates Tubes for air-brake and automotive lines , Washer nozzles and cleaning systems for ADAS, Bonding solutions.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS :**

All main "Cars Manufacturers" and "Automotive Suppliers". We have 29 manufacturing sites in 25 countries. We are producing 30 billions parts each year, so, in average, 300 per produced car worldwide.

#### TARGET MARKETS, INDUSTRY ADRESSED :

Even if Automotive is 90% of our activity, we are also proposing assembly solutions for Healthcare, Photovoltaic and Horticulture markets.





#### **EXPERTISE, BUSINESS OFFER**

DAM Group supports the e-mobility actors in testing their components: battery, e-motor, e-axle, fuel cell, etc.

Our 35 years experience and expertise in Instrumentation & Software, Electronic, Automation and Mechanical Engineering enables DAM Group to offer state of the art custom built instruments, and complete manufacturing and testing lines.

About batteries, DAM Group brings its know-how for laboratories and production, from test benches (power, communication, current/voltage, insulation, etc.) to the general implementation (AGV, robots, assembly, ecc.).

About hydrogen, DAM Group offers test and measurement solutions for fuel cells and hydrogen components (fuel cell activation and conditioning, bipolar plate leak test, high pressure test for hydrogen tank etc...).

Our solutions meet the challenges of test time reduction while ensuring control and cost performance The 30 strong group is established in France and China.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

STELLANTIS, MAGNAX

#### TARGET MARKETS, INDUSTRY ADRESSED

Hydrogen market for both stationary and vehicle applications, e-mobility (e-motor test bench, inverter test bench, battery test bench.



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Contact: Guillaume Cecchy Technical manager +33 6 67 26 34 06 g.cecchy@esopp.fr https://esopp-group.com/ Booth 10- H80

#### EXPERTISE, BUSINESS OFFER

Innovative Company in Biax Films / Applications in BOPP, BOPET, BOPA, BOPI, BOPE, Bio Polymers for packaging and technical applications like Battery Separator, Optical films / Green Solutions

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

China (>20 lines in wet process), USA (1 ligne in dry process), total more than 200 lines in the world

#### TARGET MARKETS, INDUSTRY ADDRESSED

Our markets in LiBS are on 4 continents for manufacturers wishing to supply separators to battery manufacturers or battery manufacturers who wish to vertically integrate their business



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Contact : Cédric Loubiat CEO / CTO+33 6 68 14 99 99 Cedric.loubiat@gck.battery.com https://gck-battery.com/en/ Booth 10- A43

#### **EXPERTISE, BUSINESS OFFER**

- Created in 2019, GCK Battery develops and manufactures standard, modular and custom lithium-ion batteries for professional and consumer equipment. The development and production resources made available to our customers guarantee a high level of service and a very fine adaptation to their needs.
- Each of our batteries is equipped with on-board software that monitors all its vital parameters (current, voltage, temperature) to keep it in an optimal operating range in terms of performance and safety. The other role of the BMS is to send back information about the state of charge and the health of the system.
- By designing and developing its own management systems, GCK Battery has acquired a crucial know-how which allows it to master the whole lithium-ion battery technology.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

JC Decaux electric bikes, Mobivia electric bikes and scooters, Draisy (SNCF project), GCK Mobility retrofit programs. Quality approach : ISO 9001

#### TARGET MARKETS, INDUSTRY ADRESSED

Light electric mobility, energy storage, marine, robotics, portable tools, motorsport.



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#### **EXPERTISE, BUSINESS OFFER**

MARCHANTE is a fast-growing industrial company based in the heart of the Savoie region in Montmélian, France.

We design turnkey film stretching lines, which our customers transform for various industries of the future: technical packaging (barrier multilayer films, recyclable films), membranes for battery separators (electric vehicles in particular), membranes for electronic components (capacitor films), optical films... More broadly, we design and deliver turnkey extrusion and biaxial stretching lines to our customers worldwide.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

Founded by Mr Marchante, who has more than 40 years of experience in this industry and more than 250 line start-ups. Our customers are major players in the battery industry, or packaging industry.

**TARGET MARKETS, INDUSTRY ADDRESSED** Biaxially oriented films for the battery, electronics, energy industries. Also R&D for new applications, within our Innovation Centre (Marchante Innovation Centre).

Press: https://economiecoeurdesavoie.wordpress.com/2023/01/30/marchante-une-entreprise-familiale-en-forte-progression/









Contact: Nicola Gobbo General manager +33 6 58 48 58 02 nicolagobbo@scantech.com/ https://scantech.com/ Booth 10- C100

#### **EXPERTISE, BUSINESS OFFER**

SCANTECH is a technology-driven metrology company specialized in on-line control and measurement systems of flat materials.

SCANTECH sells over 1,000 per year around the world for many types of production lines, including all types of extruded films (e.g. battery separator films), lamination and coatings processes (e.g. electrodes), textile non-woven, paper and metal. SCANTECH scanners offer complete measurement solutions including grammage, thickness, density, humidity, geometries and defect detection.

Founded in 1992, SCANTECH is headquartered in France (where all core components - such as electronic circuit boards and software - are designed), with fully-owned subsidiaries in China (Guangzhou) and Taiwan, South Korea, Germany, USA, Italy, India and Malaysia.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

Project example: Complete measurement solution for anode & cathode coating lines

#### TARGET MARKETS, INDUSTRY ADDRESSED



Battery (electrode foils, anode & cathode coating & calendering, battery separator films), fuel cells (catalist coated membranes), extrusion (biax/blown/cast/coated films, foams), lamination & converting, textile & non-woven, metal, paper.



# SERMA GROUP



Contact : Tenzing Truilhe Sales engineer +33 7 61 12 91 88 t.truilhe@serma.com www.serma-energy.com/en/ Booth 4- E57

#### EXPERTISE, BUSINESS OFFER

- Expertise, consulting, analysis and testing for electronic technologies, embedded systems included e-mobility and information systems
- Services on Batteries:
- 7 000 m2 test platform (full validation plan: electrical, mechanical, environmental, abuse and certification tests, failure and root cause analysis). We address cells, modules and packs but also e-motors, power electronics, BMS ...
- SERMA also support his customers on battery development thanks to audit, training, teardown and simulations

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

600 + customers per year, mostly EU

#### TARGET MARKETS, INDUSTRY ADRESSED

Multi-markets (automotive, e-mobility, military, avionics and space, defense, gigafactories, medical, railways, consumer ...)





# **3. VISITING COMPANIES**







Contact: Jean-Michel Brun Sales manager +33 6 19 89 18 16 Jean-Michel.Brun@accuwatt-technologies.com www.accuwatt-technologies.com/en/

#### **EXPERTISE, BUSINESS OFFER**

- Lithium Ion Battery manufacturer since 2004 for military or industrial customers.
- Widerange of capacities and voltages to be proposed beyond existing products.
- Oustomized products for specific applications.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

AIRBUS, DEPT OF HOMELAND SECURITY, MILITARY, NAVAL GROUP, IFREMER, EXAIL, THALES, etc.

#### TARGET MARKETS, INDUSTRY ADDRESSED

Mostly military and homeland security market targeted but also industry specific battery design.



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Contact : Fen Qian MI CEO +33 6 63 06 66 86 <u>f.qian@advantelec.com</u> www.advantelec.com/en/home/

#### EXPERTISE, BUSINESS OFFER

Advantelec propose Lithium batteries/cells for a large number of sectors : IOT, Medical, Industrial etc. We propose custom solutions for each customer depending on the application. Our design office provides mechatronic specifications following the study of the project.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

- Ledger, Slat, AERECO, All Circuits, Tech Power
- Project : Advantelec is going to establish a R&D line and a pilot line to produce our own cells in France. The R&D line is going to be finished in 05/2023, and the pilot line will be ready in 2024.

TARGET MARKETS, INDUSTRY ADRESSED UAV, VAE, Power tools





Explore the World of Precision





Contact : Jerome Clerc Sales & business development manager +33 6 30 10 57 65 .clerc@amd-decolletage.fr www.amd-decolletage.com

#### **EXPERTISE, BUSINESS OFFER**

- Connecter contact manufacturer since 1978
- e-Mobility & Electrification solutions for OEMs
- From Design to Manufacturing services
- Member of Groupe Savoy
- Made in the Alps, export 85% worldwide

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

- Interconnexion & contact manufacturing (CCS1)
- Signal & Power contact, Connection, Sensors, Fastening solution
- Olient co-design to manufacturing of high precision mechanical components or sub-functions

#### TARGET MARKETS, INDUSTRY ADRESSED Connector, e-Mobility, Charger, Battery, Sensors, fastening, e-Trucks, Hydrogen



Référen	ces:
<b>Ontinental</b>	🔀 BorgWarner 🔸 A P T I V
molex.	
Sensata	aleo eagle <i>Stäubli</i> somfy.







#### **EXPERTISE, BUSINESS OFFER**

Expertise: AT WEY is specialized in energy storage solutions. We propose the study, the prototyping and the manufacturing of lithium battery on small and medium series. We operate in the industrial and mobility market. To offer smart and innovative solutions to store all the energy you need.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

ALICE, PAROT, ACTIWORK, SOBEN, ALTA, ERM, KOPADIA, NINO ROBOTICS, EMI, MoonBikes...

Significative projets :

- In the last 2 years we provided more than 1000 batteries for ALYCE's smartcam
- We started to make a Battery pack for the first Retrofit project in france of The LAND ROVER Defender.
- Second-life solutions for lithium-ion batteries

#### TARGET MARKETS, INDUSTRY ADRESSED

Industrial, Transport, Medical, energy storage, soft mobility by Save My Battery



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Contact : Jérôme Arsac CEO +33 6 51 33 34 07 jarsac@base-a.com

#### EXPERTISE, BUSINESS OFFER

Expert in Lithium iron phosphate batteries, the company specialises in the manufacture and assembly of energy storage batteries for housing and industry. The BASE-A+ batteries capacities range from 15 to 60 kWh and can be assembled in systems to meet the needs of a fast-growing market in France and internationally.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS



#### TARGET MARKETS, INDUSTRY ADRESSED

Residential and industrial applications



# BONTAZ



Contact : Gabriel Briquet Thermal manager automotive +33 6 70 33 20 37 gabriel.briquet@bontaz.com www.bontaz.com/

#### **EXPERTISE, BUSINESS OFFER**

- Expert in automotive flow control
- Battery valves for breathing & venting
- Coolant valves for thermal management
- Oil/dielectric flow control (e-Motor & engines)

### - Ti

**Battery Valves** 













Coolant valves

#### Venting valve

Dual-function valve (breathing + venting)

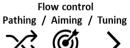


#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

- Bontaz is working with most OEM (VW, Ford, GM, R-N-M, Stellantis, Volvo Truck, Mercedes, Tata, Honda etc...)
- Our products are present in 50% of cars worldwide

#### TARGET MARKETS, INDUSTRY ADRESSED

BEV, FCEV, Truck, ICE, Light Mobility





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Contact : Samir Rachet, CEO +33 6 03 80 32 19 srachet@cluzel.fr Hervé Martinengo, Technical director +33 7 79 71 23 20, herve.martinengo@cluzel.fr www.cluzelsr.fr/

#### EXPERTISE, BUSINESS OFFER

French precision mold maker, CLUZEL SR has more than 123 years of experience in the design and production of tools for plastic parts. With an ISO 9001, a very experienced team and the latest generation technical machine tools, we can meet all the requirements that can be expected of a professional known and recognized in France and abroad in terms of:

Design and production of tools

- Transformation and Injection of plastic parts
- Assembly

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

Automotive and medical are the main sectors of activity of the company.

2 years ago, we assisted a customer to relocate all production to France by developing a dozen tools that were used for PCR tests during the COVID-19 epidemic

#### TARGET MARKETS, INDUSTRY ADRESSED

The industrial revolution of tomorrow will go through electromobility. We want to become an actor in the electric mobility sector.







#### **EXPERTISE, BUSINESS OFFER**

- For 45 years we have been producing large and precision mechanical parts - in unit or series - mechanical subassemblies, as well as complete machines and production lines assembled and tested
- Our customers entrust us with their equipment in order to upgrade them and make them evolve.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

More than 200 film machines produced all over the world

#### TARGET MARKETS, INDUSTRY ADRESSED

Plastic films - Cardboard packaging - Petrochemicals



Contact : Stéphane Erbs CEO +33 6 31 29 36 71 Stephane.erbs@cmt-sa.fr https://cmt-sa.net/















Contact : Baptiste Possémé Project manager Baptiste.posseme@enerdata.net www.enerdata.net/

#### **EXPERTISE, BUSINESS OFFER**

<u>Enerdata</u> is an **independent research** company that specialises in the **analysis and forecasting of energy and climate issues.** We do this at a variety of different geographic and business / sector levels. Our company is headquartered in **Grenoble**, France, where we were founded in 1991, and has a subsidiary in **Singapore**.

We provide globally recognised **databases** (energy statistics, power plants, clean technologies players...), **off-the-shelf reports** (**battery market**, country reports, H2 production players...), **business intelligence** services, and **prospective models** (production, demand, and prices).

We assist our clients (companies, investors, public authorities...) around the world in designing their **policies**, strategies, and business **plans** 

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

- Due diligence and potential market quantification of multiple battery innovations (anode, BMS, recycling, Zn-Air, solid-state...) for investors and start-ups.
- Study on energy storage contribution to the security of the electricity supply in Europe, made for DG ENER.

#### TARGET MARKETS, INDUSTRY ADRESSED

- Innovation creators (Start-ups, R&D, Industry)
- Regulation authorities (Government, Professional associations,...)
- Investors



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Contact: Corentin GAUNAND Sales director +33 6 82 26 25 96 Corentin.gaunand@energy-pool.eu www.energy-pool.eu/

#### **EXPERTISE, BUSINESS OFFER**

- Energy Pool is expert in Smart Energy Management System, providing solutions & services in Flexibility, Software & Microgrid, Process Transformation for decarbonation & hybridisation as well as a full range of strategic consulting (optimisation, energy contract, PPAs...)
- Energy Pool is present within more than 10 countries with operational centers.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

RTE, TEPCO, SEC, TEIAS, CIE (Compagnie Ivoirienne d'électricité), Befesa, Ugitech, Morbihan Energie, EGAT, Enercal

#### TARGET MARKETS, INDUSTRY ADDRESSED

State of the second sec







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Contact: Brice Fiorentino Business development manager +33 6 81 62 57 56 brice.fiorentino@enersens.fr https://enersens.eu/

#### **EXPERTISE, BUSINESS OFFER**

Today we are witnessing an exponential increase in the e-mobility market. A key requirement of the market is a great autonomy of this transportation and of course, the assurance of their safety of use.

To achieve these goals, all e-mobility and battery pack manufacturers are focusing on increasing the energy density of cells, increasing the number of cells in the modules and decreasing the weight. At the same time, and due to the emergence of this new market, regulations are also evolving and regulatory requirements are becoming increasingly stringent in terms of battery safety imposed on manufacturers.

Enersens now offers THE solution for all these aspects and regulatory constraints: a super-insulating sheet, ultra-thin and very light, creating a real protective barrier to avoid all the safety problems. Designed to be placed between cells, the Skogar<sup>®</sup> is the key to prevent thermal runaway from cell to cell thanks to extreme insulation properties and high fire stability.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

- VERKOR, SAFT, Spear Power Systems, SAFRAN, Plastic Omnium, ABEE, etc.
- European project EN.MOTION (funded by the EIC Accelerator program)

#### TARGET MARKETS, INDUSTRY ADDRESSED

Battery market, Electronic market



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Contact: Gaëtan Depaepe CEO +33 6 63 44 86 74 gaetan.depaepe@entroview.com https://entroview.com

#### **EXPERTISE, BUSINESS OFFER**

Entroview is a deep-tech start-up based on thermodynamics research for lithium batteries. With our patented method, we develop diagnosis software for security, state of charge (SOC) and state of health (SOH).

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

Research & development partnerships with:

- Two European Gigafactories for security testing
- One automotive company for real-time LFP SOC
- SAFT for real-time SOC and SOH diagnosis for Energy Storage

#### TARGET MARKETS, INDUSTRY ADDRESSED

- Gigafactories
- Automotive companies
- Energy Storage companies



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Contact: Julien Petrizelli CEO +33 6 33 87 87 19 j.petrizzelli@graphene-production.com www.graphene-production.com

#### EXPERTISE, BUSINESS OFFER

Graphene Production is a company based in the French Alps. Thanks to its unique and proprietary production process, it can now offer few-layered Graphene at cost and quality enabling industrial use in many areas.

Our Graphene is therefore your material of choice to be used as an additive to significantly improve the material you incorporate in it. Main end-uses are Lubricants, plastic additives & compounds, coatings & paints, heat transfer fluids improvement, concrete reinforcement, battery performance enhancement but not only.

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

Graphene production has been involved in hundreds projects since it was founded in 2015. We improved mechanical properties between 45% to 900% mechanical in PA6 with 2% graphene, 100% anti corrosion improvement in polyurethane coatings with 0,5% graphene, 800% durability in graphene/ws2 powder coating with 1% graphene and many more...

#### TARGET MARKETS, INDUSTRY ADDRESSED

Graphene properties are numerous. It is the hardest material, the most thermally and electrically conductive. It is impermeable to liquids and gas, therefore allowing excellent anti-corrosion properties. It acts as a fantastic lubricant, and a heat transfer agent. It is flame retardant, and last but not least, biocompatible.





#### **EXPERTISE, BUSINESS OFFER**

Ingecal belongs to Amalis group, together with with Ingecal R&D, Novalia, Evotech, Nixie and Accoris.

This structure allows us to fully ensure the study, realization, installation, commissioning and training, and the maintenance of your equipment worldwide.

Thanks to more than 30 years of collaboration with the main battery manufacturers, Ingecal has developed a range of machines adapted to electrode manufacturing: roll press calenders, lab coaters, rolling mills, laminating machines, editing machines.







Contact : Margaux Jullien Business developer +33 6 73 46 63 26 mxjullien@mihb.com https://www.mihb.fr/

#### EXPERTISE, BUSINESS OFFER

- MIHB, a specialist in the transformation of thermoplastic materials, is a recognized expert in the design and industrialization of technical parts with high added value, from appearance parts to fluid management and motion transmission systems.
- MIHB supports you from the choice of plastic materials to product design, tooling development and robotic expertise. A transversal approach that also revolves around our Design Office, our DTP department, and our know-how in rheology, metrology, assembly and logistics.
- MIHB masters the following technologies: mono, 2k, 3k, 4k injection, over-molding, extrusion, IMF, IMAMetrology: MIHB is equipped to perform all types of products measurements (3D scanning, QV 3D videos, roughometer...)

#### **CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS**

Parts for hydrogen sector, production and automated assembly of 27 components for gearbox motor in home automation sector, cleanliness fuel parts ISO 16232, cars' keys for automotive sector and covers for the paramedical sector.

#### TARGET MARKETS, INDUSTRY ADRESSED

Future Mobility: Batteries / Hydrogen / Autonomous Cars / Automotive / Other Mobility outside Automotive Sector

Current Mobility: Diesel / Synthetic Gasoline

Divers: Home Automation / Buildings / Paramedical / Agricultural / Leisure



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Contact: Ilyass Haddout Co-founder +33 6 59 14 69 94 Ilyass.haddout@mob-energy.com www.mob-energy.com/en/

#### **EXPERTISE, BUSINESS OFFER**

- Mob-Energy designs, manufactures, deploys and supervises smart and mobile charging solutions in France.
- Our solutions, based on **robotics**, **off-grid** charging and **second life batteries**, optimize the charging infrastructure and its installation, the energy consumption of buildings and the user experience.
- Eiko Power Cube electrifies up to 20 parking spots with the power of a single charging point and stores self-generated energy (through photovoltaic panels) or during off-peak hours.
- Charles Charging Robot moves autonomously towards the vehicles to be charged, electrifying all the spots in a parking lot to avoid the problem of charging points monopolization.
- ME Analytics, the digital twin of your parking lot, allows you to test different hypotheses to simulate the sizing of an IRVE and make the right choices, for today and tomorrow.

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

We target all use cases where **EV charging is linked to medium to long term parking for daily energy needs**: company and administration parking lots, fleets, airports, logistics operators, public parking lots, leisure and event centers, hotels, etc.

TARGET MARKETS, INDUSTRY ADDRESSED Ministère des Armées, DHL, Mercedes-Benz, Parcus, Veolia, Charier, FMLogistique, Interparking, LPA



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Contact: Arnaud Delaille Chief scientific & innovation officer +33 6 17 91 77 44 arnaud.delaille@powerup-technology.com https://powerup-technology.com/

#### **EXPERTISE, BUSINESS OFFER**

PowerUp develops advanced battery analytics software solutions to ensure safe, reliable and sustainable battery operations. Based on 15+ years of research and 10+ patents, PowerUp generate key battery monitoring indicators to detect and prevent at early-stage battery hazards (State-of-Safety) and maximize battery usage (State-of-health / State-of-charge accuracy and Remaining useful life determination).

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

PowerUp is working closely with notable historical partners and customers, some of which are listed here:



#### TARGET MARKETS, INDUSTRY ADDRESSED

- Stationary energy storage owners/operators/integrators, E-mobility fleet owners/operators,
- OPS (Uninterruptible Power Supply systems)



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# wattalps®



Contact: Christophe OUDIN Sales & business development director +33 7 86 54 07 30 Christophe.oudin@wattalps.com www.wattalps.com/

#### **EXPERTISE, BUSINESS OFFER**

- Design and production of lithium-ion battery systems with immersion cooling technology
- BMS design
- Standards and safety certifications R100rev.3; R10; ISO26262; IEC62619; UN38.3

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

Construction equipment, Agriculture machinery, Maritime, Hybrid road vehicles

#### TARGET MARKETS, INDUSTRY ADDRESSED

Construction equipment, Mining, Agriculture machinery, Maritime, NRMM, Hybrid vehicles



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# 4. BUSINESS SUPPORT ORGANISATIONS





Contact: Ingrid Milcent International business development +33 6 79 38 60 02 Ingrid.milcent@tenerrdis.fr

#### **EXPERTISE, BUSINESS OFFER**

- French energy cluster based in Auvergne Rhône Alpes, France
- 9 Your gateway into a dynamic innovation ecosystem of 270 members

#### CUSTOMER REFERENCES, SIGNIFICATIVE PROJECTS

Tenerrdis is a partner in 2 projects addressing Batteries:

- RESILEX (Resilient Enhancement for the Silicon Industry Leveraging the European Matrix) is a Horizon Europe project aiming to improve the resilience and sustainability of the entire Silicon value chain in the EU. During 4 years, the project consortium which gathers 21 partners from 8 different countries will demonstrate 8 new technologies around Critical Raw Materials, Solar PV & Batteries.
- École de la Batterie : A project dedicated to professionals in the battery sector that aims to develop new training programmes for all qualification levels, from technical training certificates to PhDs. Over 70 new or adapted initial training programmes will be offered to high school and engineering school students, undergraduates and postgraduates. Objective : meet the labour needs of the growing French battery industry in the years to come.

**TARGET MARKETS, INDUSTRY ADDRESSED** Renewable energy production, Energy conversion and storage, hydrogen, Energy distribution, flexibility, efficiency, Sufficiency and access to resources

# **AUVERGNE-RHÔNE-ALPES ENTREPRISES**



The Economic Development Agency of the Auvergne-Rhône-Alpes works to support business in the region. Financed primarily by the regional government, the agency is a non-profit organization with 11 sites and 130 employees present throughout the region. Through their efforts, they assist businesses at every step of their development : investment, training, recruitment, export, innovation, expansion, relocation, and financing. They also promote foreign direct investment in the region through their Invest brand.

Auvergne-Rhône-Alpes Entreprises boost company growth in Auvergne-Rhône-Alpes, France. We provide fast, clear and efficient services that are tailor-made for each business.

#### **OUR MISSIONS:**

- Promoting Auvergne-Rhône-Alpes, the #1 industrial region in France
- Helping companies invest in Auvergne-Rhône-Alpes: technical, financial and legal support, local connections, etc.
- Making companies' international and innovation initiatives a success with programs such as regional booths at trade shows and dedicated IT and industry conventions.
- Sostering international growth (foreign subsidiaries, external acquisitions).
- Ontributing to the development of our clusters (Minalogic, Axelera, CARA, Polymeris, Tenerrdis, etc.).



Economic Development



Human Resources/ Training



Innovation



Economic & Territorial Intelligence









# Let's keep in touch

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