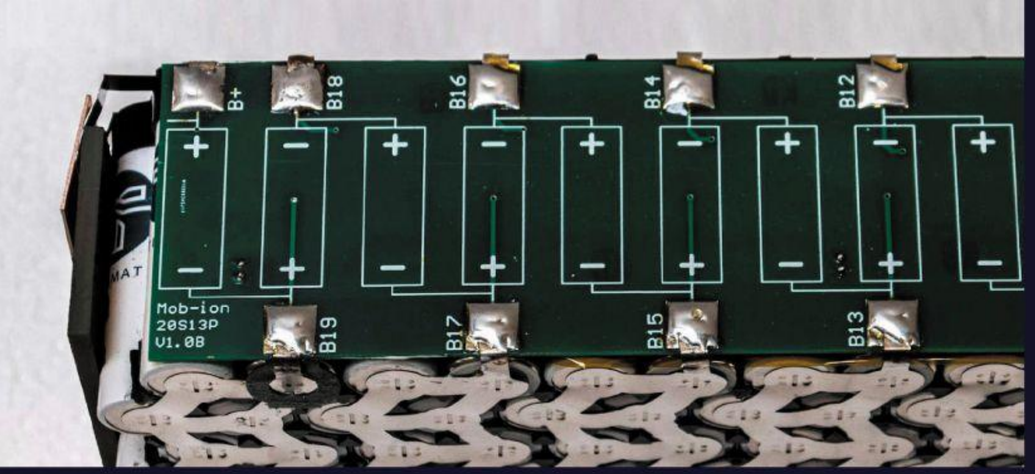
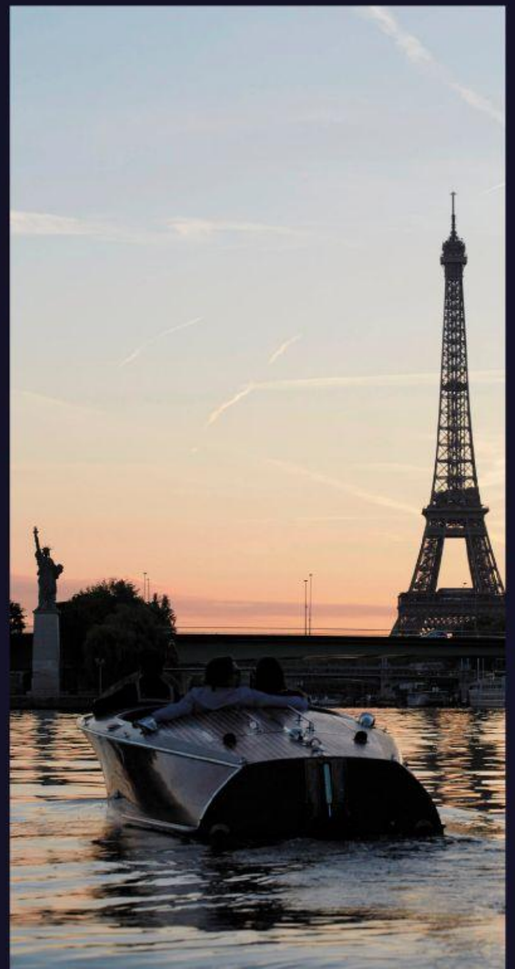


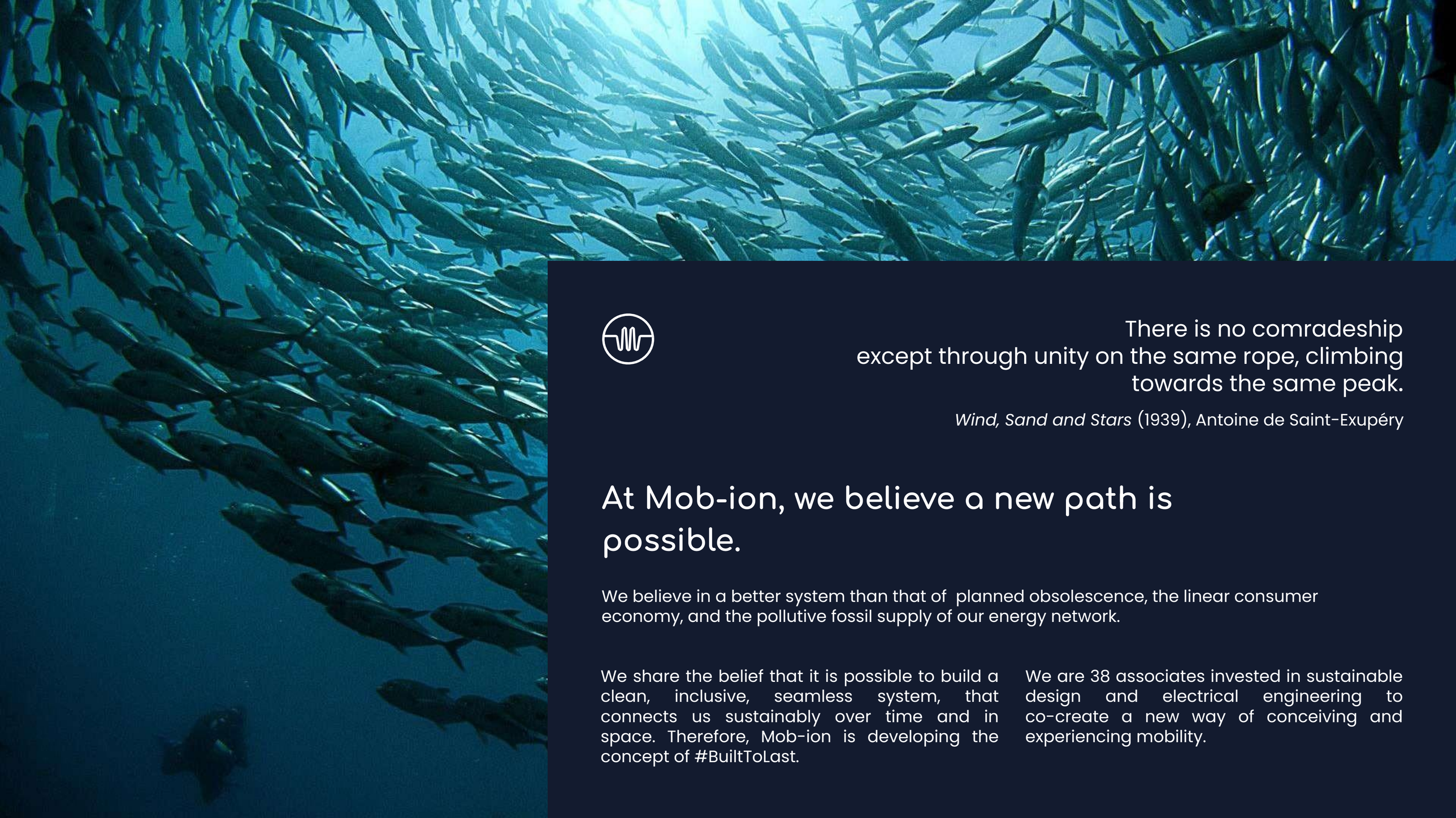
mob-ion®

ÉLECTRONIQUE EN #PÉRENNITÉ PROGRAMMÉE

Electronic Solutions, #BuiltToLast

General presentation





There is no comradeship
except through unity on the same rope, climbing
towards the same peak.

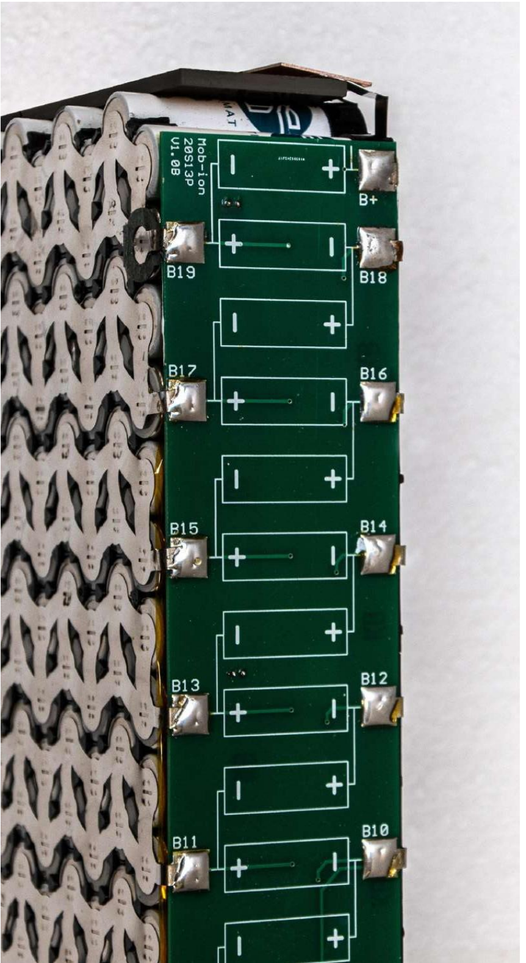
Wind, Sand and Stars (1939), Antoine de Saint-Exupéry

At Mob-ion, we believe a new path is possible.

We believe in a better system than that of planned obsolescence, the linear consumer economy, and the pollutive fossil supply of our energy network.

We share the belief that it is possible to build a clean, inclusive, seamless system, that connects us sustainably over time and in space. Therefore, Mob-ion is developing the concept of #BuiltToLast.

We are 38 associates invested in sustainable design and electrical engineering to co-create a new way of conceiving and experiencing mobility.



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About Mob-ion

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Political context

Emmanuel Macron pleads for "reconciling industry and ecology" and sees a major stake for "European sovereignty“in the French production of electric batteries.
[30th January 2020, saft factory, Nersac]

While Asia controls more than 90% of the emerging electric motorisation market, the European Commission approved the Franco-German “battery Airbus” program in 2019, which grants 3.2 billion euros in public aid to a consortium of large companies and SMEs in this key sector for the future of the automotive industry.

The stakes are high, since batteries represent at least a third of the added value of electric vehicles.

This trend has been reinforced in France by the introduction of Low Emission Zones by 31 December 2024, which was enacted by the legislator in July 2021 as part of the Climate and Resilience Act. This decision covers all urban areas with more than 150,000 residents. It already affects 5.5 million vehicles; 10.5 million more vehicles will be affected in 2022 and a further 12.5 million by 1 January 2024. Eventually, two thirds of French cars will no longer be able to drive in our cities.

Emmanuel Macron on visit at Tiamat, and Laurent Hubard, CEO of Tiamat, in front of the AM1 scooter equipped with a sodium-ion battery prototype born from the collaboration between Tiamat and Mob-ion [November 2019, Amiens]

This gradual shift from a linear economy to these emerging economic models demonstrates a profound paradigm shift, reflected in recent legislation.

Shift in paradigm

1908

Early days of the thermal car

Early industrialisation of the automobile era with the Model T.

1932

Planned obsolescence

First appearance of the term in the United States to fight against mass unemployment.

2015

Planned obsolescence criminalisation

Planned obsolescence becomes an offense punishable by two years in prison and a 300,000 euro fine.

2016

Limitation of the thermal car

implementation of the national Crit'Air system and a Low Emission Zone (ZFE) in Paris where the circulation of the most polluting vehicles is limited.

2021

Repairability index

mandatory adoption of a 'repairability' index for electrical and electronic products.

2040

Generalisation of electric cars

Planned end of the thermal car in France.

What we do

Mob-ion designs and manufactures long-lasting connected electronic solutions in France for the storage and the mobility sectors.

Scooters

Mob-ion has developed its own long-lasting mobility solution in France, and tested it over 5 million kilometres: an eco-designed connected electric scooter and its paired 4 year guarantee service.

Electronic engineering

Our expertise in the design and manufacturing of electric batteries in France enables us to offer customised electrification solutions for old and new vehicles as level 1 suppliers.

Stationary storage

We have also developed a stationary power storage solution which is planned to incorporate part of our reconditioned batteries in the long run, contributing to the continuous development of the smart grid.

Our ecosystem comprises six companies, with complementary services.

Ecosystem

Mob-ion France

CRUIS'R was created in 2012 as a multi-brand garage for motorcycle enthusiasts, with electric models on offer. CRUIS'R's trade name became Mob-ion France at the end of 2020. It now distributes our scooters in BtoB.

Mob-ion services

CRUIS RENT was created in 2015 whose trade name changed to Mob-ion services at the end of 2020, now provides rental and maintenance services of a fleet of electric scooters to a clientele of food delivery professionals.

Mob-ion

Mob-ion was founded in 2016. and is the company that drives innovation today. Its services include the design and assembly of electric scooters and batteries, the design of electrification solutions, and the design and construction of stationary storage solutions.

Enerthical

Enerthical was founded in January 2020. Its mission is to assemble and repair batteries.

Intensité

Established in 2020, Intensité is a manufacturer of management and power electronics.

FACOMEP

Founded in 2021, FACOMEP is a collaborative factory built to last metallurgy.

The SCI Les Grands Ateliers holds full ownership of our 25,000 m2 industrial site in Guise.

Our business model involves a French industrial production

Made in France

Mob-ion is driven by a dynamic of establishing French know-how in France.

We strongly believe in the virtues of local production both for the industrialization of our AM1 scooter, on our assembly lines in Guise, in Hauts-de-France, and for the manufacture of our batteries, in Artigues-près-Bordeaux , in Nouvelle-Aquitaine, or our battery management electronics and controller near Nantes, in Pays de la Loire. This approach allows us to optimize the entire production chain.

Today, this local manufacture allows us to reach 68,9% of the unit cost price of our AM1 scooter acquired in France and to claim the Origine France Garantie certification, the purpose of which is to give consumers clear information on the origin of a product and to promote the local production of companies that subscribe to this approach.

In addition, the income from the salaries of our employees, as well as those of the service providers with whom we work, help to enrich the territory. Through their consumption within the local economy, these households in turn create wealth. A virtuous circle is taking place, a guarantee of the good health of the local economy.

A community of committed players, united in open innovation projects.

Partnerships

5,000,000km travelled

Historical partner of Mob-ion, Just Eat and its members have trusted us with over 5 million accumulated kilometres since 2017. Their feedback and the collected data have enabled the creation of a scooter addressing the specific needs of delivery professionals.

R&D in open-innovation

We are involved in open innovation R&D work alongside our partner Tiamat, a French company specializing in cutting-edge research which designs and manufactures sodium-ion cells for cleaner, more durable, faster charging batteries. We are also working with SAP on data collection and analysis models.

Artificial intelligence

With Adagos, we are working on the design of a BMS AIA (Battery Management System Artificial Intelligence Appliance) to optimise the total cost of ownership (TCO) and guarantee the battery integrity over time.

Removable hydrogen batteries and cartridges

We are working with Stor-H to develop an alternative version of our AM1 electric scooter. Their "Powered by STOR-H" module, with a fuel cell and removable cartridges for solid storage of green hydrogen at very low pressure, is integrated into our scooter to bring a hydrogen scooter to the market, a true alternative to lithium battery scooters.

A community of committed players, united in open innovation projects.

Partnerships

Stationary storage and scooters

We have formed partnerships with Boulanger in our various markets (scooters, batteries and energy storage).

We have also signed an after-sales service contract for our scooters for a BtoC market.

Batteries of the future

We have established a strategic partnership within the framework of a call for projects CORAM21, led by the BPI and the Investment Secretariat , reporting to the Prime Minister.

.Intended uses: switched battery and bidirectional power converter for universal and flexible battery use (light vehicle market, portable booster battery, finer maintenance to the battery cell).

Embedded AI

We have established a partnership with LAAS-CNRS, INSA Strasbourg and Femto-ST CNRS on embedded artificial intelligence in technical, business and environmental issues.

Team

A team of 50

includgin 38 associates integrated through a capital increase with a distribution of bonus shares, sharing a passion for sustainable mobility.

A national presence

associates integrated through a capital increase with a distribution of bonus shares, sharing a passion for sustainable mobility.

A wide range of technical expertise

associates integrated through a capital increase with a distribution of bonus shares, sharing a passion for sustainable mobility.

Team

Christian Bruere

ENFP

Co-founder and CEO

A specialist in intermediation solutions since the 90s, Christian is one of the founding partners of ALLO RESTO, which became Just Eat. In 2011, in partnership with the World Bank, he created an “off grid” solar panel system for agricultural water pumps. In 2016, he founded Mob-ion to become a manufacturer of long-lasting electric mobility solutions.

Strategy

Nissa Nouay Abdoul

ENTP

CFO

After 10 years in private banking, Nissa turned to financial management within SMEs and startups. She taught Strategy and Corporate Finance at business schools, and engaged in the Social and Solidarity Economy as a partner of Globethics, an international foundation in Geneva that promotes CSR, and on the management committee of a charitable foundation for the protection of the environment in India

Ethical Finance

Arnaud Berger

ENFP

Strategy & Partnerships Manager

Former Director of Sustainable Development of the BPCE group, Arnaud is a specialist in green economy and CSR prospective analysis. He also teaches at Paris Dauphine, Sciences Po Paris and ESSEC, on the topics of green economy, economic model of CSR, CSR management and sustainable real estate.

Green Finance

Laurent Hugelin

INFJ

CLO

Doctor of law, lawyer in business law and international law since 2000, President of the Junior Economic Chamber of Paris in 2005, adult professional trainer, and member of the board of the Intuition Créative association, Laurent has been developing non-conventional, yet legally proven solutions for the last 20 years.

Law

Stéphane Cassé

ENFP

Funding manager

E.S.M.E Engineer and holder of a master's degree in industrial marketing, Stéphane created ECLEO in 2001 , a hardware design office (100 employees, turnover of €6M) sold in 2010 and received the 'Parisian Economy Hope Prize’ in 2005 . Member of the I.M.E and coach at the HEC incubator from 2009 to 2011, he created 2 startups specialised in hotel reservations from 2012 to 2018.

Industrial Marketing

Marie Chkaiban

ENFP

Stigmergy Manager

Trained in pure mathematics (Imperial College) and innovation management (HEC Paris), Marie wrote her research thesis at MIT on technological innovation for the agro-food system. Engaged in digital activism and education, Marie brings her experience in constructive communication and design of sustainable value in plural systems.

Sustainable Systems

Cyril Haenel

INFP

CTO

Electronics developer (hardware and embedded software) for almost 20 years, Cyril is passionate about electric propulsion and designs brushless motor controllers, calculators and BMS for vehicles, small (Velectris electric bikes, Weez d'Eon-Motors, Luménéo Sméra) and large (E-Fan electric aircraft and Airbus Vahana and City aircraft).

Electronic Engineer

Jérémie Strack

ESFJ

Innovation Manager

Graduated from ENSCI - Les Ateliers en Design Industriel (The National School of Industrial Creation), Jérémie published a thesis entitled "Technical man and imagination - what stimulates modern technique" in 2017. He works on various projects inspired by bio-mimicry and industrial ecology, to use design to create a more sustainable world.

Industrial Design

Damien Tronchère

ISFJ

Jimini.io Head

An ENSAM engineering school graduate, Damien has 20 years of experience in the design and development of consumer electronics products. He participated in product design as a Mechanical Manager at Safran, then took over responsibility for the Mechanical Studies office at Archos. He supervised the overall development of smartphones and tablets in the Archos range then took over the direction of R&D in 2017.

Electro-Mechanical R&D

Ludovic Baudequin

ISFJ

Product Manager-AM1 Scooter

Ludovic has more than 10 years of experience in the restaurant industry, particularly in opening fast food franchises. He set up Papa John's (#3 in pizza delivery worldwide) in the south of France, which he equipped with a fleet of electric scooters from Cruis'Rent. It is through adopting the concept of #BuiltToLast that he decided to join Mob-ion at the end of 2018.

Food Delivery

Constantin Gravil

ENFJ

Prototyping Manager

After a Masters degree in Philosophy with a religion and society major, Constantin has been the technical manager of maintenance and repair of electric vehicles since 2008 at Vehrts Bleu Company. Still in the field of sustainable mobility, he has carried out several electrification projects for prototypes of vehicles and has done research on energy storage systems.

Philosophy- Electronics

Jack Meng

ENFJ

Quality Control Manager

After a first experience at Phoenix Electric where he became familiar with electric vehicle assembly technologies, Jack opened his own electric scooter store in Beijing in 2011, followed by two other branches. Jack uses his experience at Mob-ion to ensure that parts manufactured in Asia follow the configurations and the level of quality imposed by Mob-ions's #BuiltToLast policy.

Procurement

AM1 Scooter

Design
#BuiltToLast
Jimini
Logistics
Controlled investment

Design

The AM1 scooter and its service contract have been specifically designed to answer delivery professionals' intensive needs.

The user data they generated resulted in 32 technical improvements on the scooter, increasing both its safety and repairability. This iterative design process was built over 5 scooter generations tested over more than 5 million kilometres. Our preventive maintenance system, facilitated by the design-for-reassembly of the AM1 scooter, also helps to limit the risk of breakdowns and accidents.

This allowed us to design and manufacture a scooter in France which is guaranteed for 4 years, twice as much as market standards.

The AM1 scooter was approved in May 2020. It has been certified Guaranteed French Origin in August 2021.

Max speed
45 km/h (30 mph)

Recharge time
2-4 hours

Range
140 km

Max load
150 kg

#BuiltToLast

Made in France

The AM1 scooter and its battery are designed and assembled in France. With over 70% of the scooter's worth produced in France, we meet the requirements of the Origine France Garantie certification.

Built To Last

All the components of our scooters are designed to optimise their lifespan (reinforcement of the cycle part, anti-loosening screw, sealed electronics, extended battery life). In addition, we integrate the principles of circular economy and industrial ecology: constant search for renewable, reusable and recyclable materials, maximisation of parts repairability, etc.

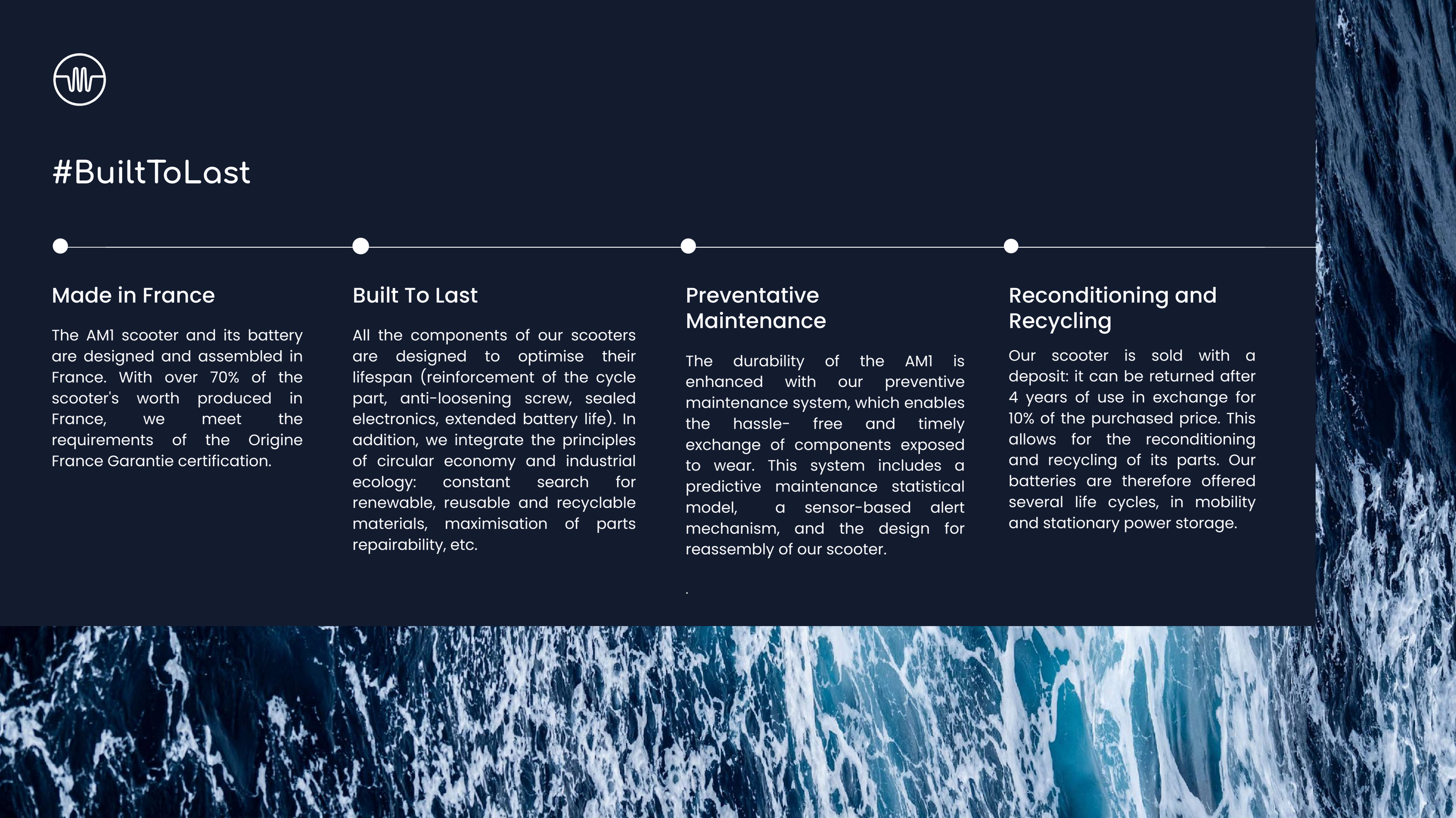
Preventative Maintenance

The durability of the AM1 is enhanced with our preventive maintenance system, which enables the hassle- free and timely exchange of components exposed to wear. This system includes a predictive maintenance statistical model, a sensor-based alert mechanism, and the design for reassembly of our scooter.

.

Reconditioning and Recycling

Our scooter is sold with a deposit: it can be returned after 4 years of use in exchange for 10% of the purchased price. This allows for the reconditioning and recycling of its parts. Our batteries are therefore offered several life cycles, in mobility and stationary power storage.

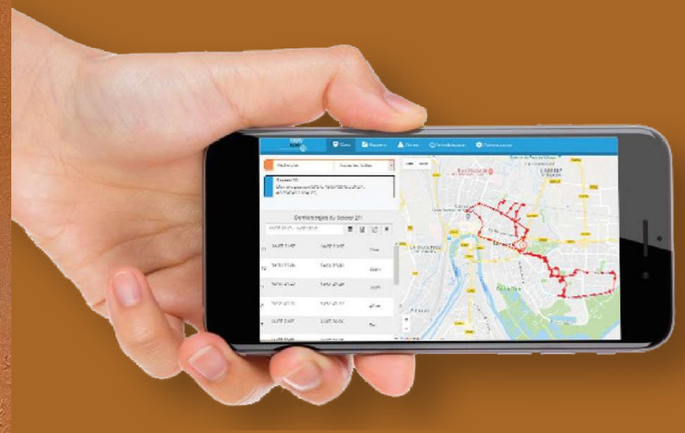


Jimini

A BMS MLA (Battery Management System Machine Learning Appliance) serving an intelligent battery

The AM1 scooter is equipped with a connected smart device allowing:

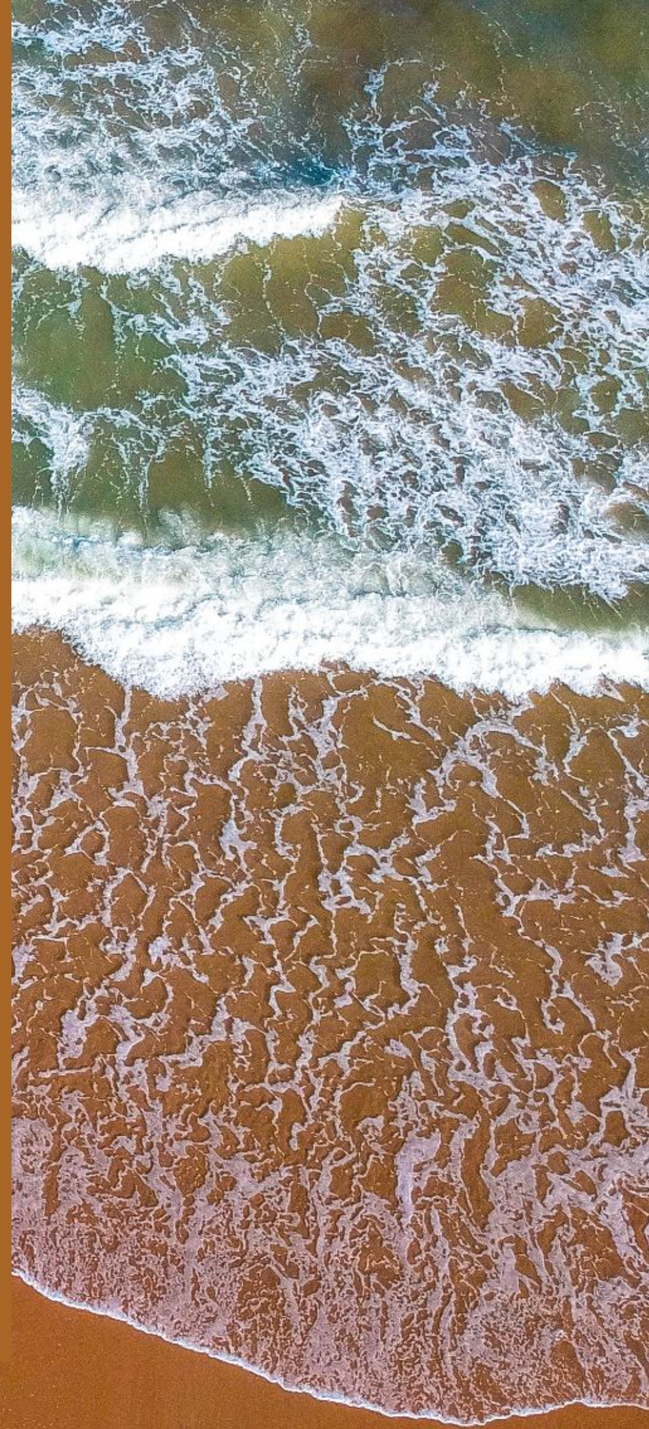
- real time geolocalisation;
- data collection to observe driving behaviour;
- battery use analysis to optimise their lifespan;
- remote auto-lock.



- Jimini.io offers advanced features, including:
- ●Geolocation at any time thanks to the integrated GPS and GSM (GPRS 2G to 5G) and WiFi (and Bluetooth) communication technologies;
- ●Data collection for each vehicle and for the fleet;
- ●Display of collected data in a customisable Back Office dashboard (optional).
- Jimini offers integrated contracts which make it possible to monitor fleet use by measuring parameters and checking that these remain within the recommended ranges of use.

For example:
•Monitoring battery use (charge, discharge, storage between 30% and 70% of charge, minimum and maximum storage temperature, etc.).
•Checking the use of a vehicle by measuring shocks and accelerations and setting boundary levels.

Jimini also allows you to create a preventive maintenance policy, with the establishment of a preventive maintenance log, which records the number of hours of use, the mileage and notifies the user accordingly. Users can also report an accident on the app.



Logistics

Reusable packaging for the standard replacement of spare parts.

In order to limit the packaging waste associated with the standard replacement of spare parts, we are implementing a reusable packaging system, with delivery crates and returnable bubble wrap bags.

This system is part of our #BuiltToLast model and also represents a significant source of savings.

Controlled investment

4 year guarantee

The scooter's 4 year guarantee doubles its depreciation period compared to the market, thereby reducing capital expenditures (CAPEX).

Preventative maintenance

The #BuiltToLast scooter design and our preventive maintenance system, which makes it possible to easily change the parts of the scooter exposed to wear at the right time, considerably reducing the number of accidents and maintenance costs.

Standard replacement

The fixed price of all spare parts provides the purchaser with full visibility of the costs associated with standard replacement of parts over the scooter's life.

Spread CAPEX

Capital expenditure (CAPEX) is spread of 4 years instead of 2, dividing up annual accounting costs.

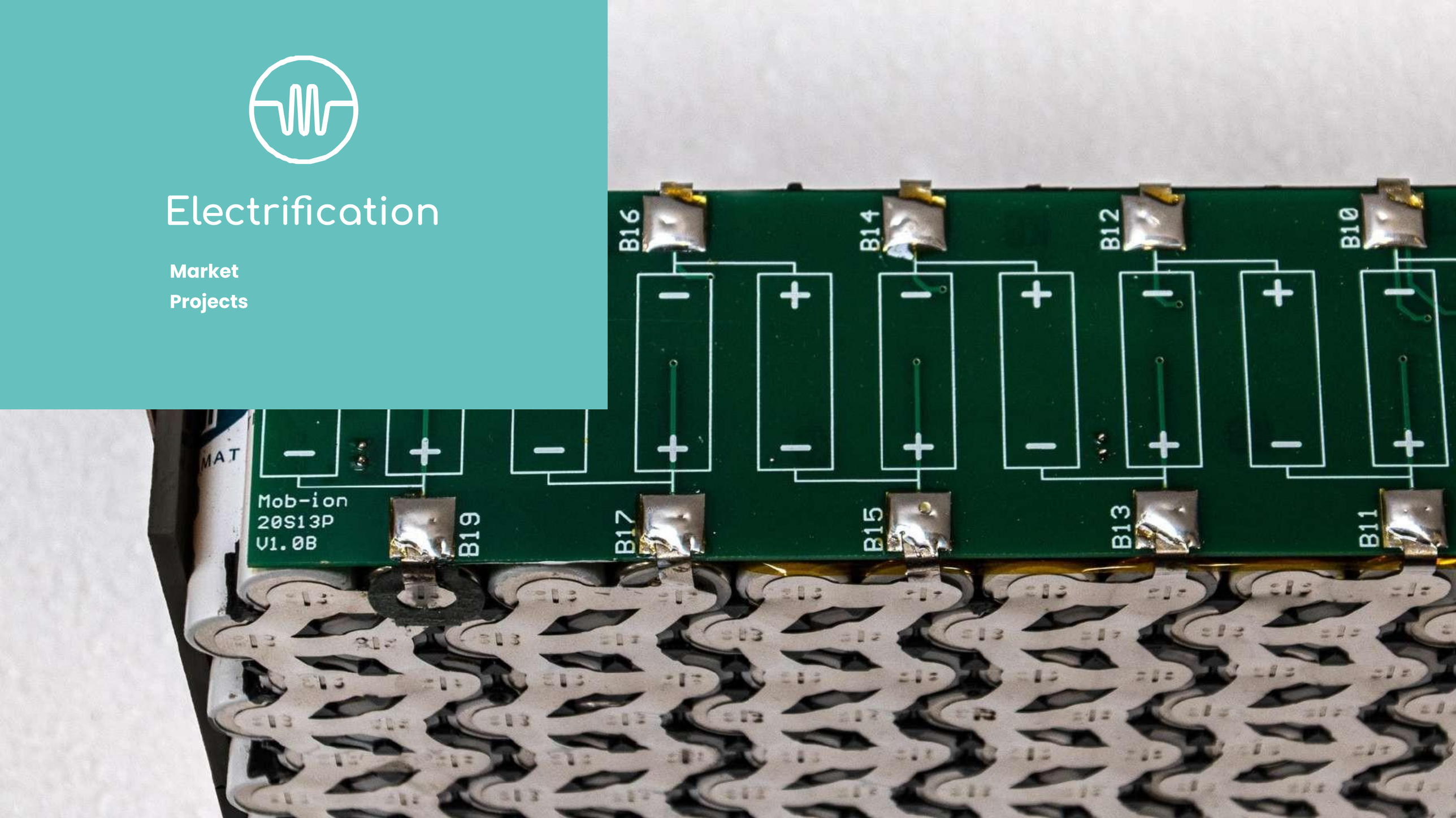
Controlled OPEX

Total operational expenditure (OPEX) is controlled and contractual.

Electrification

Market

Projects



Market

French market at 1 billion euros between 2020-2025.

Within the electrification sector, Retrofit works specifically in transforming a vehicle with a combustion engine, gasoline or diesel, into an electric vehicle. Retrofit is part of the circular economy, by rehabilitating functional vehicles destined for scrapping.

According to AIRe, the association uniting players in the electric Retrofit industry, projections for this service in France would generate a turnover of 1 billion euros for 65,000 converted vehicles between 2020 and 2025 .

By retrofitting 1% of the total French vehicle fleet (passenger cars and LCVs combined), i.e. nearly 400,000 vehicles, the activity would generate a business volume of more than 5 billion euros, including 1.3 billion for batteries alone! This would also make it possible to maintain or create more than 42,000 direct or indirect jobs.

With Luxembourg, Spain and Portugal, this market is brought to nearly 10 billion euros.

Dedicated retrofit controller designed and developed by Mob-ion

Projects

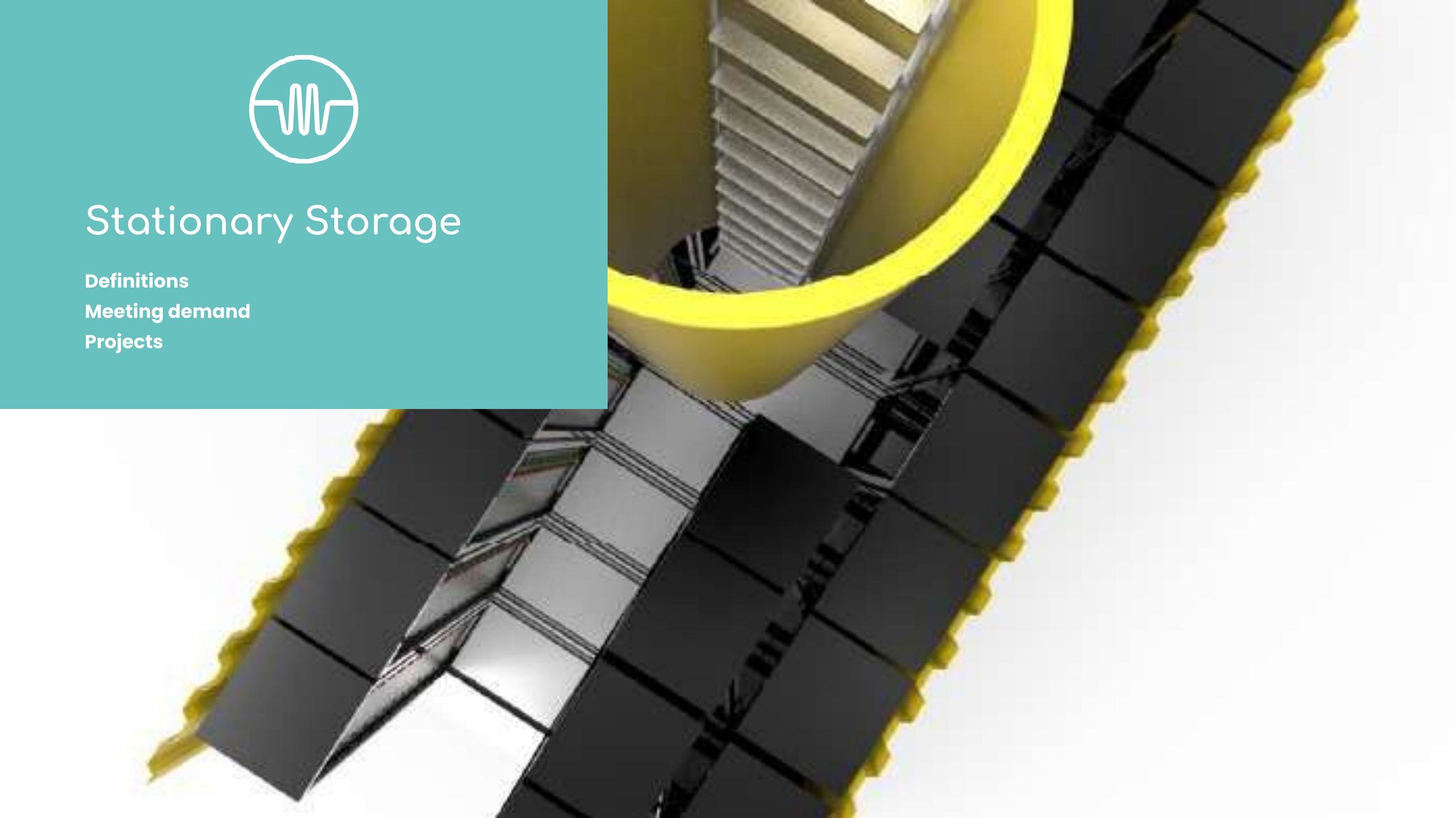
Mob-ion is working in partnership with the company Les Ateliers du Rétrofit in the context of the suspension of the French ban on the Retrofit order, allowing the replacement of combustion engines with electric motors since March 13th, 2020.

Over the last two years, Mob-ion has developed tailor-made electric batteries and VCU (Vehicle Control Units) to electrify new vehicles (scooter, buggy, plane, jet-ski) and existing thermal vehicles (plane, boat, car).

A dedicated portfolio presenting our different projects is available on request.

Stationary Storage

Definitions
Meeting demand
Projects



Definitions

Energy storage allows energy supply and demand to match over time.

Evolution of the demand for power on the French electricity network during a typical day in winter.
RTE

Stationary storage

Stationary storage, as opposed to storage dedicated to mobile applications (batteries for vehicles, telephones, computers), appears today as one of the essential conditions for the development of intermittent renewable energies.
[CEA.fr]

B2G and V2G

The term B2G (Battery to Grid) characterises the action of reinjecting the electricity contained in electric batteries into the electrical network in order to smooth consumption peaks. V2G (Vehicle to Grid) refers to the specific case of the batteries of parked electric vehicles.

Smart grid

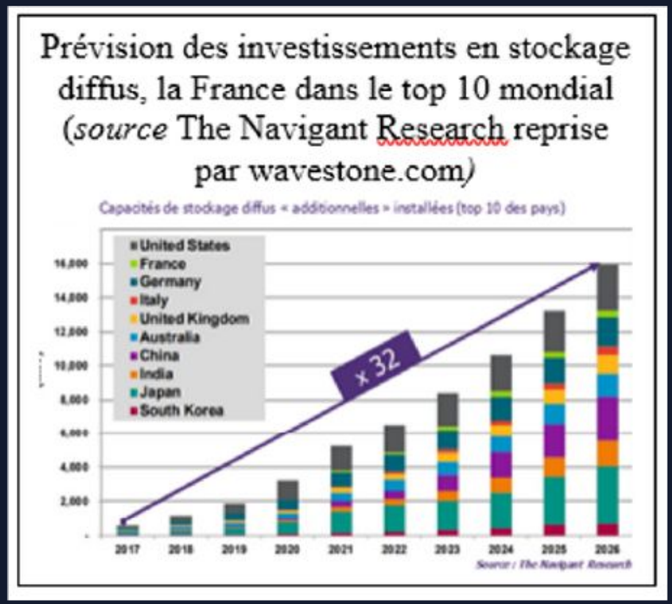
Smart grids are electricity grids which, using computer technologies, adjust the flow of electricity between suppliers and consumers to optimise energy management.

Meeting demand

To accompany the rise in renewable energies which have a variable, non pilotable and decentralised production, increasing global capacity for electric storage seems necessary.

Stationary electricity storage helps to ensure the balance between electricity production and consumption on the networks, and in particular to compensate for the variability in renewable energy production. Storage allows, for example, to store excess energy produced during a sunny day in order to restore it in the evening.

This context explains the explosion of global demand for renewable energy, boosting the demand for electrical storage equipment. Electric batteries are the most accessible solution to address decentralised storage needs.



By 2026, despite its 5 GW of electrical storage generated by hydroelectric dams operational in 2017 (network-wide), The Navigant Research positions France in the top 10 countries investing in diffuse storage.

Projects

Mob-ion produces stationary storage modules (top picture) stackable into racks (bottom picture), which will be partially made with the reconditioned batteries coming from the mobility sector in the long run

Its vertical integration, battery engineering expertise and agile project management process (#CodeSocial) enable Mob-ion to design, manufacture and install customised energy storage solutions in France, to both individuals and professionals.

A stationary storage unit with capacity over 110 kW was sold to a private customer seeking total energy autonomy by using the electricity powered by his solar installation.

Mob-ion is also developing an initial series of four 20-feet-wide modular electrical storage containers, with a unit capacity of 3 MWh, in partnership with the company ENERGIGA.

See project portfolio for further details.

Data

A sustainable data strategy

A framework for implementing #BuiltToLast

We believe that the data economy will be based on trust and the concrete provision of solutions in the territories. We are therefore working for a connected, collaborative, fair and circular economy.

A sustainable data strategy

Sharing the data : self & common data

At a time when Big Data, Open Data and Artificial Intelligence are taking over all aspects of life, there is plenty of room for disappointment. We are seeing a sharing economy that limits and excludes local shops..

Mob-ion approaches things differently by integrating digital services with stakeholders in its region that immediately benefit SMEs and individuals. Our services and data are at the service of the region's stakeholders in consultation with the public sector. We are participating in a POC on digital regional resilience with the long standing local workers (Familistère) and contributing our networked solutions.

From smartphone to smart scooter

Integrating the best equipment to process data, our scooters are tools for the spread of collaborative public services.

We certainly think about mobility, but we also include the "generators of mobility" in our process(local authorities, shops, cultural venues, etc.) to co-design new experiences for city residents.

We make the use of our scooters interoperable and they can be used for catering or last mile logistics, as required.

We are working on designing mobile smart click & collect lockers that can be transported by our scooters for city centre shops.

Privacy for development

At a time when the invasive use of personal data is on the rise and the public's distrust of widespread commercial surveillance is growing, Mob-ion is taking the opposite approach to the major digital companies.

Mob-ion invests in distributed digital infrastructures to strengthen data protection at the local level, and to limit the spread of sensitive data. This approach provides a high level of response in terms of services and strengthens trust with local operators. Without compromising the analysis of eco-driving, only aggregated data is sent to our servers and to our partners such as insurers, who can in no way control the actions of their policyholders.

Regional & digital cooperation

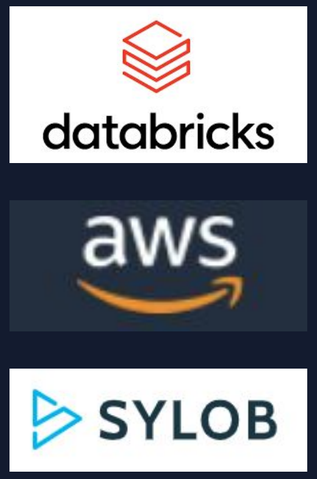
By getting involved locally, we can rely on legitimate local partners and co-develop digital services that can be integrated into public spaces.

As a participant in a new generation of local collaborative platforms, in local circuits, our action favours the development of smaller networks, for example by providing our connected logistics partners (cubyn, chronofresh....) in addition to our scooters.

This approach not only strengthens the business models of local operators, but also regulates the profits of the platforms and allows them to share the benefits.

A framework for implementing #BuiltToLast

Technology choices



End-to-end solutions powered by end-to-end architecture

Mob-ion's business model of programmed sustainability is rich and complex. It fully integrates the complete value chain, not only from eco-design to commissioning, but also integrates the return flow of recycling and maintainability, while enhancing the value of the data economy at every stage.

Moreover, manufacturing in France is a challenge that requires the most flexible, robust and rapid methods to regain competitiveness through innovation.

To this end, we have chosen an end-to-end architecture capable of managing this complexity in an agile and secure way.

The first building block is already strong and scalable

We have already designed a framework capable of :

1. Managing all our data in the cloud in a datalake;
2. Deploying fleet management and maintenance microservices;
3. Managing data analysis;
4. Managing business processes (Agile ERP being rolled out).

Being AI Ready: The challenge of the smart factory and AIoT

We chose to take advantage of our planning and pre-industrialisation time to design our industrial architecture. Integrated into the databricks / AWS ecosystem, our smart factory will be equipped with laser cutters, connected objects controlled according to MLops principles which are capable of structuring industrial pipelines and end-to-end maintenance.

In addition, we will equip ourselves with a platform of MLops and tools for 'edge computing' and continuous integration and deployment (CI/CD), coding in Spark to manage AIoT in a coordinated, efficient and economical way.

R&D

Vitesco : Revolutionary battery technology
Stor-H : AI for hydrogen/battery combination
Familistère: Innovation and regional resilience
Tiamat - SAP : Integration of sodium-ion batteries
Adagos: Economically developing a BMS AIA

R&D
Innovative battery technology for mobility

Vitesco Technologies, Continental's powertrain expert, and Mob-ion have responded to a BPI CORAM 2021 call for projects that aims to accelerate the market introduction of ambitious, innovative and sustainable mobility technologies and solutions.

This project, in partnership with Lass and relying in part on CEA Tech equipment, aims to target the light vehicle market with revolutionary battery technologies. It includes an R&D investment of €18 million in which mob-ion is financed by the BPI in the amount of €1,100..

The market potential has been rigorously analysed by BPI experts.. This call for projects brings prospects on the light vehicle market, and for the battery on both BtoB and BtoC markets. Mob-ion can work both with its BtoB clients and on the BtoC market with its partners (Boulanger).

STOR·H
DIGITAL ENERGY

INSTITUT DE RECHERCHE
femto-st
SCIENCES & TECHNOLOGIES

R&D
Hydrogen scooter

We are also working with STOR-H Technologies to develop a hydrogen version of our AM1 scooter.

The "Powered by STOR-H" power unit has been integrated into our scooter, which is powered by removable and refillable STOR-H cartridges, where hydrogen is safely stored in a solid at very low pressure.

This partnership brings together our wide range of expertise. Our motor monitor, our Jimini geolocation sensory communicating system, our MLA BMS (in a second AIA phase), and a backup battery will be developed for this hydrogen hybrid system..

We will push the current limits of hydrogen by integrating the MPPT (Maximum Power Point Tracking) of the H2 system into our energy management chain, coupled with real time mapping data through our digital twin, for better management of the hydrogen system in different scenarios.

After an initial investment of €20 million, STOR-H has developed a green hydrogen technology capable of powering light vehicles with a small footprint and zero CO2 emissions.
To be operational, this revolutionary system must be coupled with a battery, therefore STOR-H and Mob-ion have established a strategic partnership to optimise the battery-hydrogen combination.

In June 2021, the French National Research Agency supported this partnership by co-financing a research project conducted with the Femto-st institute, to improve hydrogen consumption by 15-20% and to improve the life of the hydrogen capsule by 10-15% through the use of a revolutionary multi-capsule technique (MFCS - Multi-Stack Fuel Cell).

In this 42-month project, Mob-ion provides scooter prototypes, a test bench, real-world testing, data collection thanks to it's Jimini technology and skills in Artificial Intelligence and big data architecture (Mlops in particular).

STOR·H
DIGITAL ENERGY

On a commercial level, STOR-H and Mob-ion have already agreed a partnership in a framework contract which involves:

- Commercial development (2022-2024) included in its business plan, in emerging markets, particularly in China, based on substantial volumes of the AM1 scooter sold under a white label.
- Tier 1 referencing with renowned manufacturers in other markets.
- These features are supported by increased equity in 2021 (€10m) and in the future (€22m).

Shanghai CIIE, 2020

Discover the AM1 Powered by STOR-H presented at the 2020 China International Import Expo.

Powered by STOR-H

A quickly expanding range of products to impose our standard and secure market share

2022 › 2024

1KW
6KW

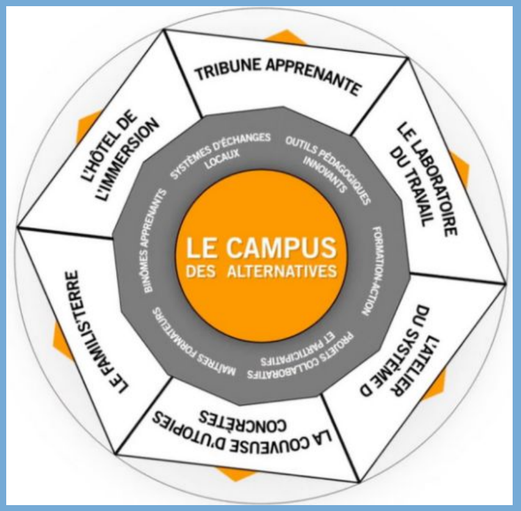
Adopted by OEMs that need technology standards, already chosen by 12 OEMs

Left to right : Francois MAURICE, Technical Manager China, STOR-H ; M. LAI Lishui, Vice Director, Management Committee of Taiwanese Investment Zone of Quanzhou ; M. WANG Tao, Vice Director, Emerging Industrial Center of China Investment Association ; M. ZHOU Quan, Director, the Investment Promotion Office of Taiwanese Investment Zone of Quanzhou ; member of the delegation of Taiwanese investment zone of Quanzhou.

R&D
Our local commitment to employment

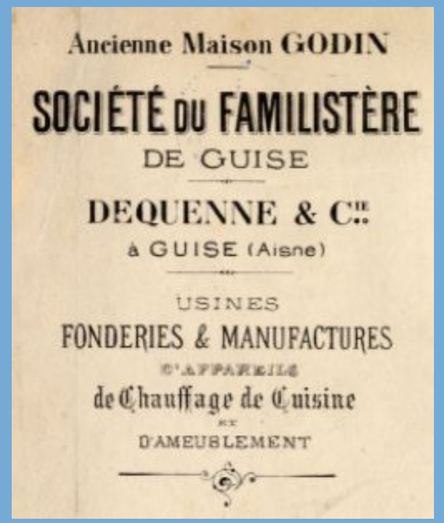
By setting up its main production site in Guise, Mob-ion aims to make its own contribution to the future of the industrial sector and has moved closer to the iconic Familistère site to make its mark on the development of a collaborative, connected and sustainable industry.

#BuiltToLast is not just a set of techniques. .It is a global initiative that involves manufacturers, consumers, the public and stakeholders in equal measure. Deciding to manufacture in France in the industries of the future leads us to re-examine our systemic practices.



Our factory is next to the Familistère, a concrete industrial utopia created by Jean-Baptiste Godin to accommodate his workers. We have joined forces with the Familistère's union, which has a strong ambition, with the Campus of Alternatives, to give this structure back its original glory in line with the challenges of the 21st century.

Several projects are under consideration: the creation of a FabLab, an incubator for connected and sustainable industrial projects, a professional training centre to support this transition towards an industry that integrates sharing, and the contribution of "wealth equivalents" through training and education in the ecological and industrial issues of the 21st century.



R&D
Sodium-ion technology

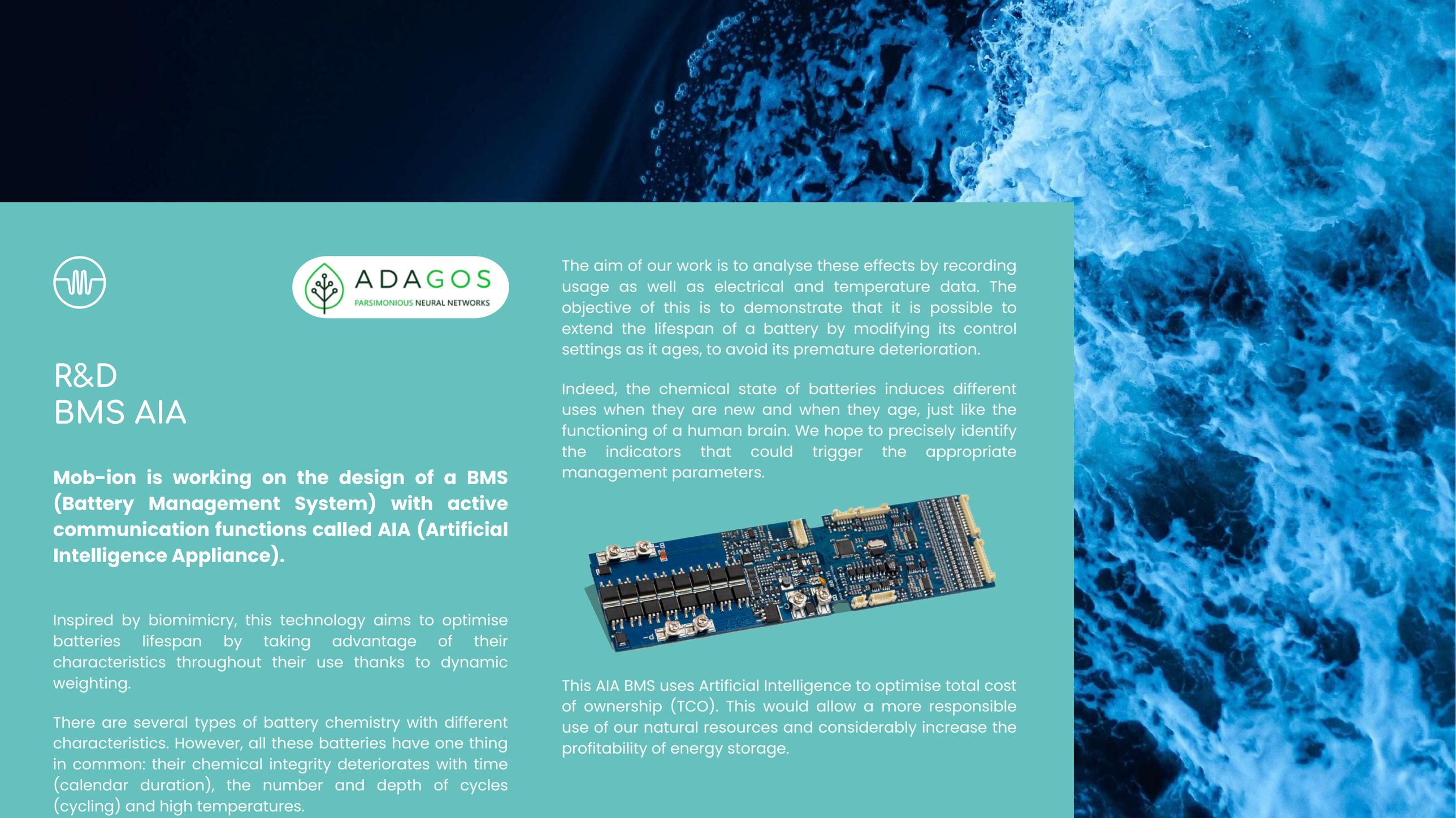
Emerging sodium-ion battery technology is the most serious alternative to the lithium-ion batteries found in almost all portable electronic equipment today.

Better for people and the environment than lithium-ion batteries which rely on the extraction of rare metals such as Cobalt (problematic extraction conditions) and Lithium (0.6% of the earth's crust), sodium-ion technology uses sodium (2.6% of the earth's crust, abundant in seawater and more easily recyclable).

Less polluting batteries, 3 times more durable, charge 10 times faster.

We are working in open-innovation with Tiamat, a French company engaged in cutting-edge research and a CNRS partner, which designs and manufactures recyclable sodium-ion battery cells with fast charging properties and longer lifespan.

The properties of sodium declare a major technological breakthrough in the industry, with much more enduring batteries (lifespan over 10 years, i.e. over three times that of lithium batteries under conditions of continuous use) and ten times faster charging times.



ADAGOS
PARSIMONIOUS NEURAL NETWORKS

R&D
BMS AIA

Mob-ion is working on the design of a BMS (Battery Management System) with active communication functions called AIA (Artificial Intelligence Appliance).

Inspired by biomimicry, this technology aims to optimise batteries lifespan by taking advantage of their characteristics throughout their use thanks to dynamic weighting.

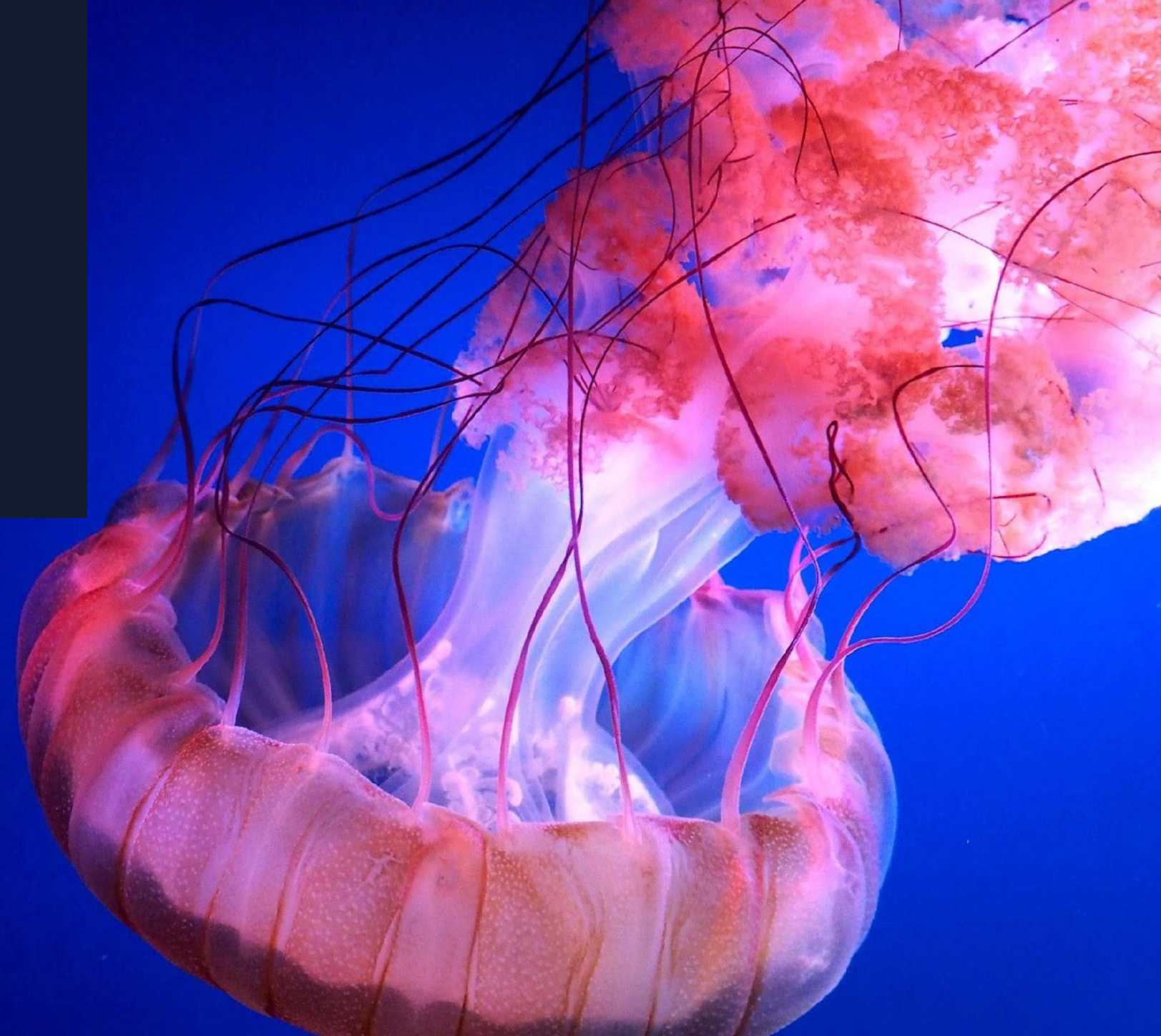
There are several types of battery chemistry with different characteristics. However, all these batteries have one thing in common: their chemical integrity deteriorates with time (calendar duration), the number and depth of cycles (cycling) and high temperatures.

The aim of our work is to analyse these effects by recording usage as well as electrical and temperature data. The objective of this is to demonstrate that it is possible to extend the lifespan of a battery by modifying its control settings as it ages, to avoid its premature deterioration.

Indeed, the chemical state of batteries induces different uses when they are new and when they age, just like the functioning of a human brain. We hope to precisely identify the indicators that could trigger the appropriate management parameters.

This AIA BMS uses Artificial Intelligence to optimise total cost of ownership (TCO). This would allow a more responsible use of our natural resources and considerably increase the profitability of energy storage.

Media coverage



Acknowledgment and recognition

Genesis

The Association for the Future of the Electro-Mobility (AVEM) interviewed Christian Bruere who reviewed the history of our connected electric scooter AM1.

Find out more

Rétrofit

Le Point tells the story of the hybrid Retrofit project Hacker-Craft 26, operated by Mob-ion.

Find out more

Sodium-ion cells

The CNRS highlights our AM1 scooter equipped with sodium-ion cells developed by Tiamat.

Find out more

Recycling

Parigo, a magazine dedicated to transportation in Île-de-France, shares Christian Bruere's vision on recycling electric batteries.

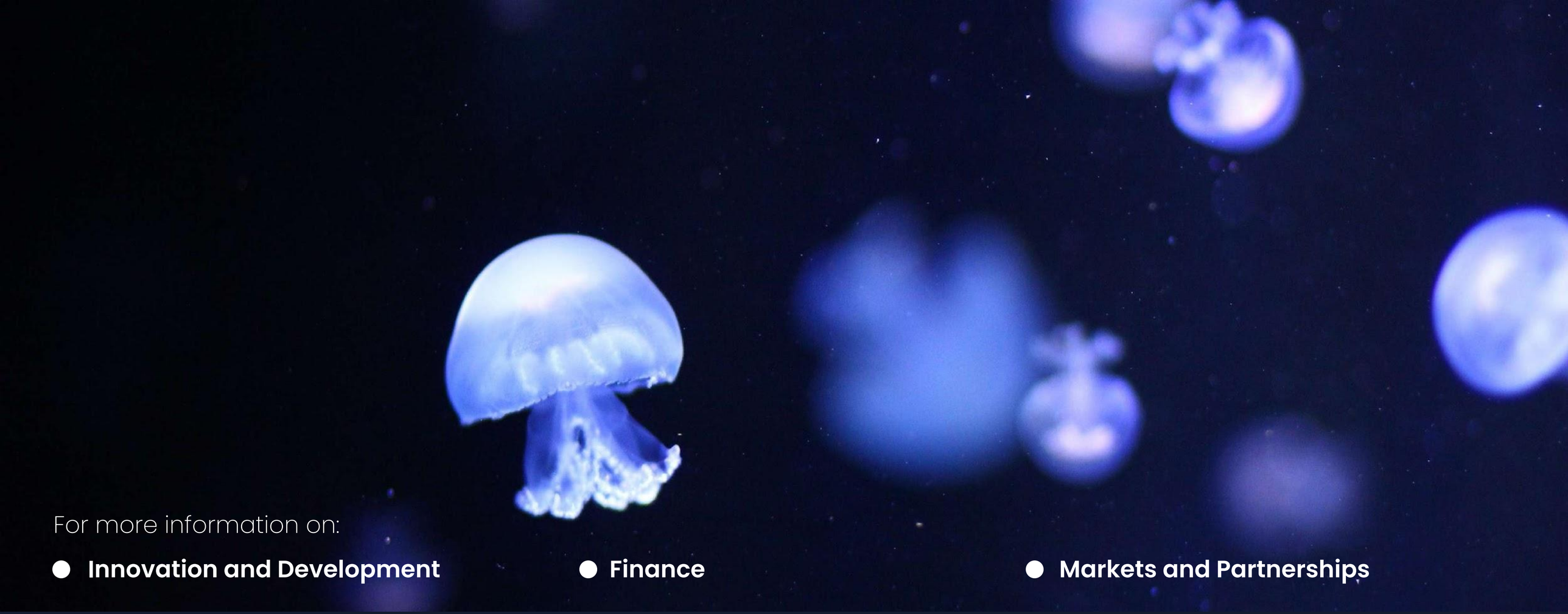
Find out more

Recognition and support

Mob-ion is supported by Ademe through the Initiative PME scheme and winner of the Investissement d'Avenir IPME. We are also eligible to the Young Innovative Company status and benefited in 2018 and 2019 from CIR and CII grants and BPI prospecting insurance subsidy which enabled our installation in Portugal.

Our AM1 scooter is supported by ADEME within the framework of France Relance. Its hydrogen version, designed in partnership with STOR-H, was praised by the Government Information Service.

Find out more



For more information on:

- **Innovation and Development**
- **Finance**
- **Markets and Partnerships**

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