ARGYLIUM
AN AXENS GROUP COMPANY

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POWERING ADVANCED BATTERIES

With High Performance Sulfides Solid Electrolytes

BECOMING THE LEADING SUPPLIER

of High Performance Sulfide Solid Electrolytes for ASSBs

Argylium is the alliance of 3 pioneering industrial players joining forces to accelerate the transition toward next-generation energy solutions through a unified vision.

With Syensqo (formerly Solvay) All Solid State Batteries Team, Axens' deep expertise in inorganic chemistry and industrial process scale-up, and IFPEN's renowned know-how in materials science, Argylium commits to leading the design and industrial production of high-performance Sulfide Solid Electrolytes for All Solid State Batteries (ASSBs). The company seeks to establish itself as a strategic partner for both European and non-European customers, and pursues this goal through the execution of a well-defined R&D and industrial roadmap.

ENABLING MARKETS TO TRANSITION TOWARD ASSBs

ASSBs have the potential to surpass conventional liquid-electrolyte batteries, delivering superior performance and enhanced safety compared to existing battery technologies.
Developing breakthrough inorganic electrolytes is essential to unlocking the full potential of ASSB technology.
Among them, Sulfide Solid Electrolytes stand out as the most promising class, offering the optimal balance of performance across all key properties.

OPERATING WITH A DEFINED ROADMAP

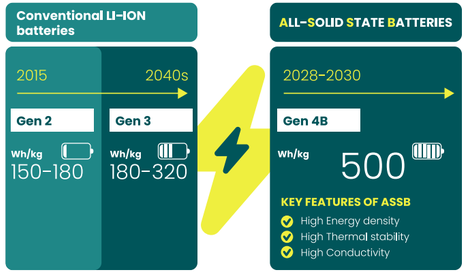
By designing and industrializing best in class Sulfide Solid Electrolytes, and providing a key element of the value chain, Argylium is set to enable the future generation generation of ASSBs.
In this perspective, Argylium executes a clear R&D and Industrial roadmap based on 3 pillars:

- Complete the design and scale of a differentiated Sulfide Electrolytes portfolio
- Secure the access to critical raw material via partnership and/or back integration
- Develop a Regional industrial footprint along with worldwide technology licensing.

DELIVERING TOP-TIER SOLUTIONS
to Advanced Batteries

All Solid State Batteries (ASSBs) represent a breakthrough technology set to revolutionize the battery industry over the next decade. Compared to conventional batteries, ASSBs promise to address critical unmet needs — delivering higher energy density, superior intrinsic safety, and broader operating temperature ranges — while preserving fast-charging capabilities and cost competitiveness. These batteries also offer the advantage of easier integration into more compact and flexible systems. Their targeted applications include high-end electric vehicles requiring longer driving range and fast charging times, as well as high-performance batteries for sectors such as aerospace & defense, consumer electronics, robotics, medical devices.

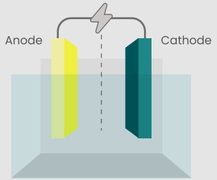
Differentiating advantages of ASSB for EV market



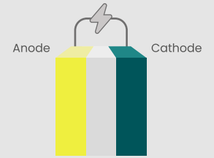
A unique value proposition

LIGHTER, SAFER, MORE SPACIOUS & SPORTIER

- Driving range x2
- Fast charge <10min
- Perfect safety
- Lighter
- Lower total cost of ownership
- Better driving experience



LIQUID electrolyte



SOLID electrolyte

INNOVATIVE SOLID ELECTROLYTE FOR ASSBs

ASSB PRINCIPLE IS BASED ON THE USE OF NON-LIQUID NON-FLAMMABLE ELECTROLYTE, ENABLING THE USE OF BETTER PERFORMING ANODES AND MORE COMPACT BATTERY DESIGNS. THE DEVELOPMENT OF ASSB STRONGLY RELIES ON THE DEVELOPMENT OF UNIQUE SOLID ELECTROLYTE TO REPLACE THE INCUMBENT MULTICOMPONENT ORGANIC LIQUID ELECTROLYTE.

PRODUCT CHARACTERISTICS

- LITHIUM THIOPHOSPHATE ELECTROLYTE, WITH A FOCUS ON ARGYRODITE PRODUCT RANGE
- HIGH IONIC CONDUCTIVITY, ENABLING HIGH ENERGY DENSITY CELL MANUFACTURING
- EXCELLENT ELECTROCHEMICAL COMPATIBILITY WITH HIGH END ACTIVE MATERIALS, BOTH AT CATHODE AND ANODE SIDE
- TUNABLE PARTICLE SIZE, FITTING WITH OPTIMIZED ELECTRODE AND SEPARATOR TARGETED DESIGNS

OFFERING STRATEGIC MARKET ADVANTAGES
to Secure the Battery Value Chain

With over 10 years of experience, Argylium is the most advanced company in Europe in the research, development and industrialization of Sulfides Solid Electrolytes. Combining the expertise of a world-class R&D team with unique large assets, Argylium is able to drive innovation in advanced inorganic materials. Thanks to a dedicated kilo-lab supported by electrochemical testing capabilities, as well as a running pilot unit, Argylium supports the transition from laboratory research to production and can easily demonstrate the scalability of its technology.

Argylium's ambition is to become the leading company supporting the development of the battery value chain in Europe, providing Sulfide Electrolyte at the right quality, scale and cost, with timelines aligned to the roadmap of its key stakeholders as well as to be the technology licensor of reference.

PROVEN EXPERTISE AND HERITAGE
Relying on Solvay's legacy and the combined strengths of Axens, Syensqo, and IFPEN.

DISTINCTIVE TECHNOLOGICAL EDGE
Complementary capabilities from our shareholders enable the design of scalable, reliable, and cost-effective solutions from the demonstration phase onward.

COLLABORATIVE INNOVATION ECOSYSTEM
Strongly supported by public and private partners to accelerate progress.

INDUSTRIAL EXCELLENCE IN INORGANIC CHEMISTRY
Seamless scale-up from lab innovation to industrial production.

SECURED ACCESS TO CRITICAL RAW MATERIALS
Ensuring control and resilience in supply chains.

CLEAR PATH TO INDUSTRIAL SCALE
Operational pilot units in France underpin a well-defined roadmap for growth.

COMMITMENT TO SUSTAINABILITY
Responsible resource use (including recycled raw materials) at every stage with low-impact environmental processes.

COMMITMENT TO CIRCULARITY
Driving recyclability end to end.

JOINING FORCES
to Form a Premier Strategic Alliance

Argylium has been established in January 2026 through the merger of the competencies of three leading industrial and R&D leaders in inorganic specialty materials: Axens, Syensqo and IFPEN.

By combining their three core areas of expertise, the 3 shareholders have decided to join forces to create Argylium, the new reference in sulfide electrolyte technology.

With a dedicated team of over 50 experts across its two sites in France, Argylium is the only European company capable of developing, testing, and producing Sulfide Solid Electrolytes at ton-scale. Argylium positions as the best choice for battery companies willing to develop and commercialize All Solid State Batteries based on sulfide inorganic electrolytes.

PARIS
RESEARCH CENTER

The Paris Research Center is dedicated to driving innovation in advanced inorganic materials, establishing the links between product structure and application properties. Fully operating in dry room environment and with scalable assets, the team focuses on defining and prototyping Sulfide Electrolyte portfolio, leveraging expertise in material synthesis as well as physico-chemical, electrochemical and battery performance evaluation.

LA ROCHELLE
DEVELOPMENT CENTER

The La Rochelle Development Center is dedicated to advancing pre-industrial processes for next-generation solid-state batteries materials. Equipped with top of the art pilot unit, the center accelerates the industrialization of advanced materials, fostering a culture of process innovation and supporting the transition from laboratory research to scalable production.

RELYING ON THE HERITAGE
of Our Shareholders

Axens is a French MSE in the energy sector, which has become one of the world leaders in mineral chemistry through the production and sale of catalysts for the oil and chemical industry, and the provision of innovative technology.

As part of its diversification into low-carbon technologies with adjacencies to its core business, the Axens Group is helping to provide the missing pieces of the French value chain for battery production and to meet the exponential needs of future European gigafactories and the automotive industry.

Syensqo is a science company developing groundbreaking solutions that enhance the way we live, work, travel and play. Inspired by the scientific councils which Ernest Solvay initiated in 1911, we bring great minds together to push the limits of science and innovation for the benefit of our customers, with a diverse, global team of more than 13,000 associates in 30 countries.

Our solutions contribute to safer, cleaner, and more sustainable products found in homes, food and consumer goods, planes, cars, batteries, smart devices and healthcare applications. Our innovation power enables us to deliver on the ambition of a circular economy and explore breakthrough technologies that advance humanity.

IFP Energies nouvelles (IFPEN) is a major player in research and training in the fields of energy, transport and the environment.

From scientific concepts in fundamental research to technological solutions in applied research, technological innovation is at the heart of its action.