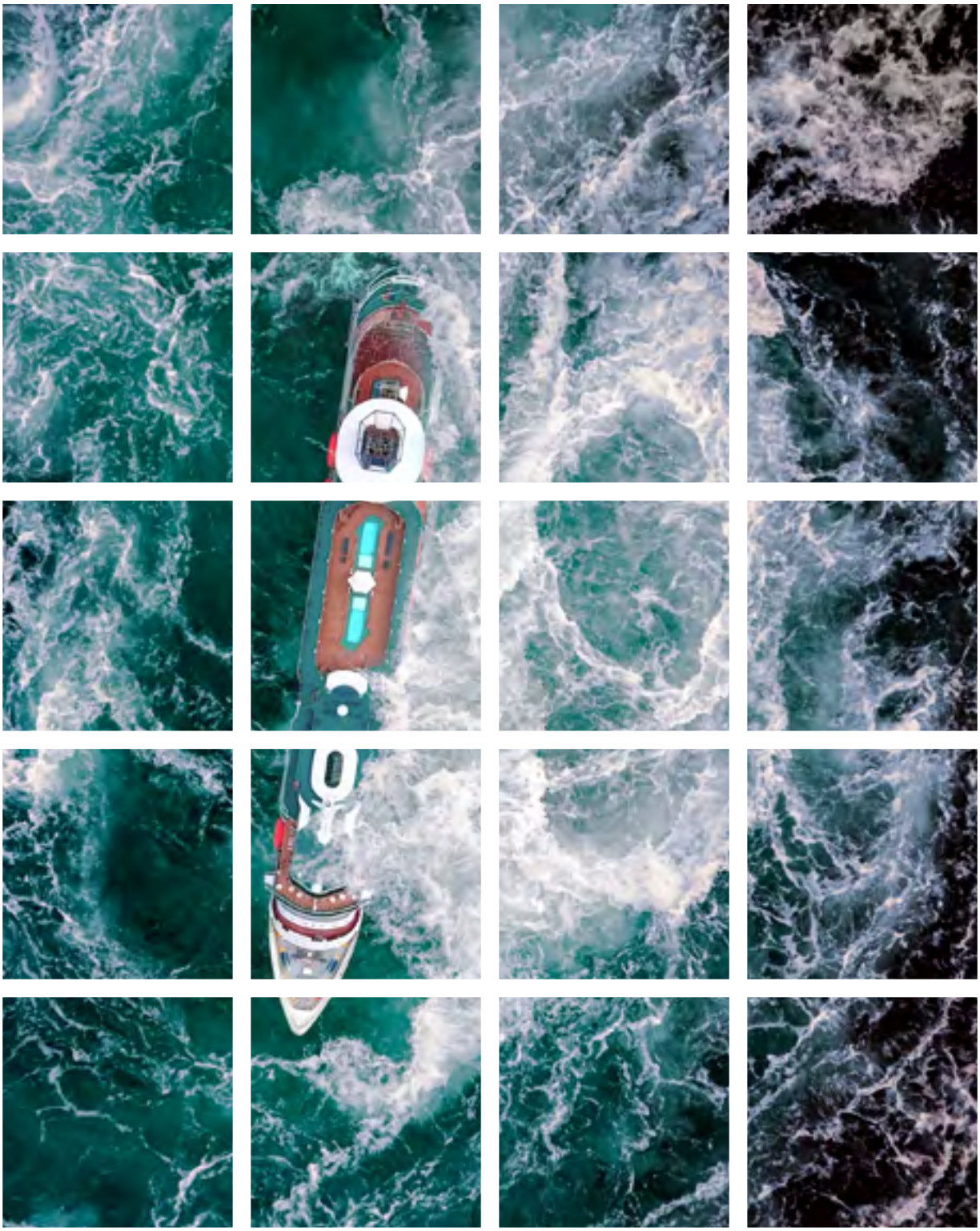

SAATI For Clean Energy

PFAS-Free Woven Meshes For Applications in Clean Energy Generation & Storage

FOR THE MANY, BY THE FEW

SAATI

Sustainability in Power

Enabling Responsible Progress in the Energy Sector

As the world accelerates its transition to renewable energy, sustainability is not just a goal. It is a responsibility. SAATI believes that true innovation must deliver both high performance and a positive environmental impact.

In the fast-evolving energy landscape, from hydrogen production and electrolysis to battery systems and carbon capture, SAATI embeds sustainability into every solution it engineers. The company's advanced textile technologies contribute to cleaner, more efficient, and more durable energy systems, supporting customers in reaching their sustainability and regulatory objectives.

From PFAS-free developments to energy-efficient production processes, SAATI partners with energy innovators who seek materials that meet today's performance challenges while preserving tomorrow's resources.

Commitments in Action

- 100% of electricity sourced from **renewable** energy
- Sustainability performance **EcoVadis certification** recognized
- **PFAS-Free mesh and membrane** options in active development
- Engineered solutions that are durable, efficient, and recyclable
- **Continuous investment** in sustainable **innovation for the energy value chain**

SAATI is committed to engineering materials that power progress — and protect the planet. Because in energy, as in innovation, performance and responsibility must go hand in hand.

* PFAS-FREE means no PFAS substances are intentionally added or declared in its components. However, trace amounts may be present due to unintentional contamination or background environment exposure.

Contents

Click a page number to visit the section.
To return click the house icon at the bottom of pages.

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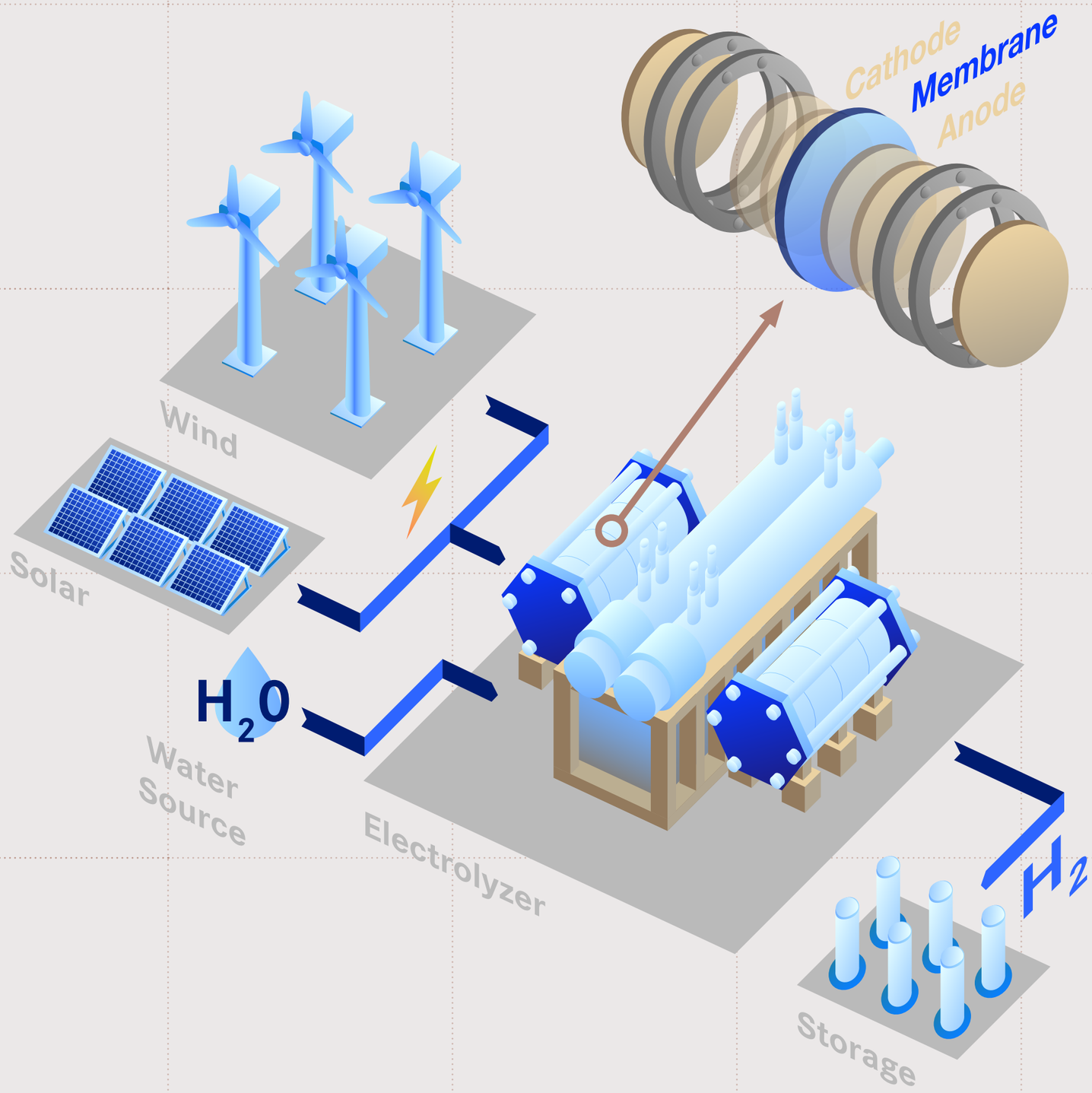
FOR THE MANY, BY THE FEW

Hydrogen Value Chain

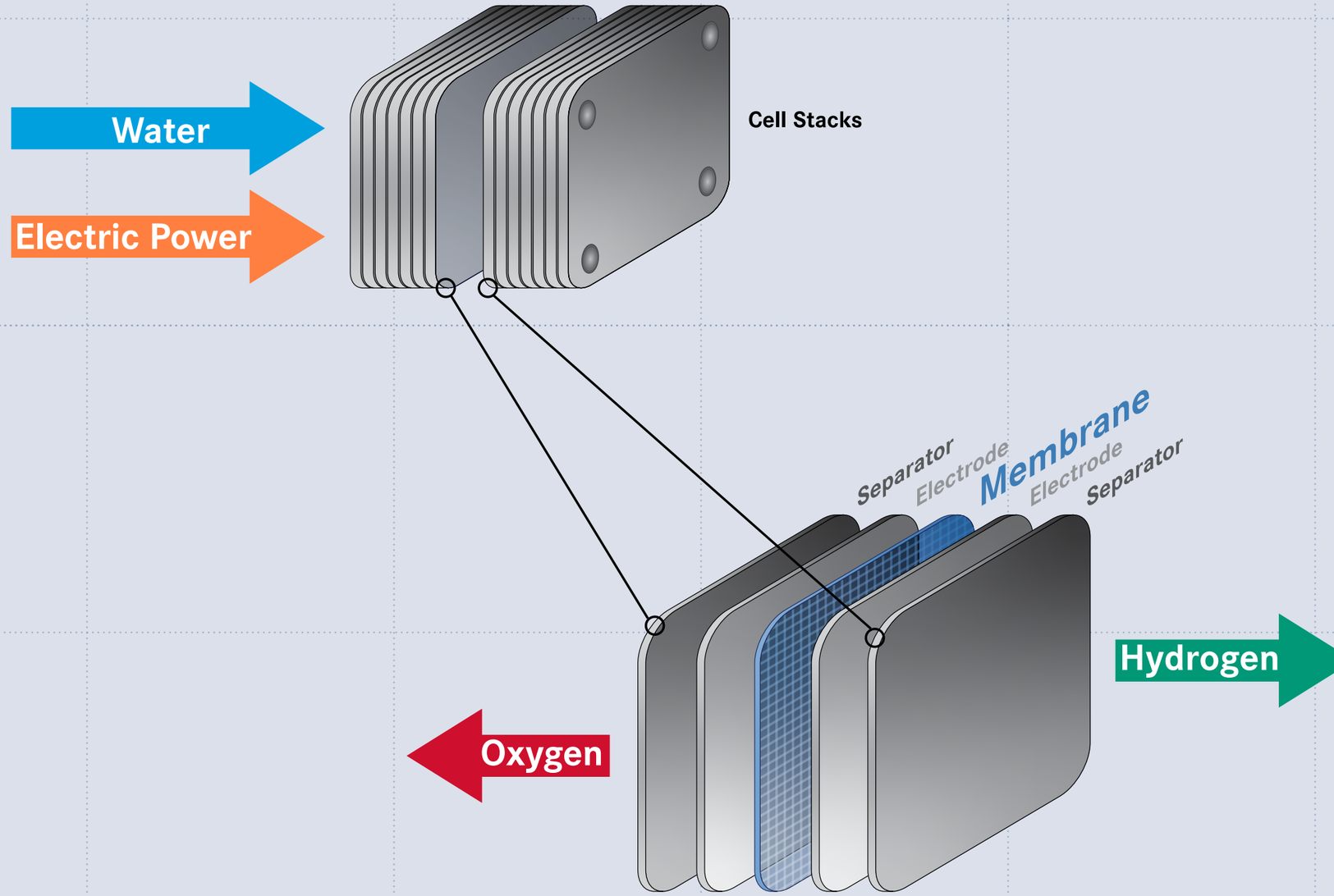
PFAS-Free Components for the Generation of Hydrogen From Water and Energy

- Alkaline Water Electrolyser
- PEM/AEM Water Electrolyser



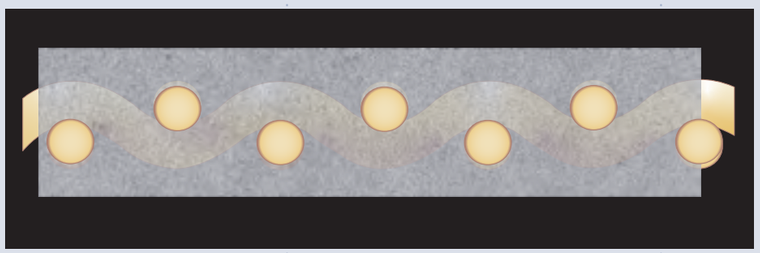
SAATI SpA
www.saati.com | Contact SAATI

SAATI in the H_2 Chain



Membrane Reinforcement

Membranes require a mechanical reinforcement to withstand the necessary high pressure. SAATI offers solutions in PEEK & PPS monofilament woven meshes that can fulfill this function.



SAATIenergy - The Alchemy of Clean Power

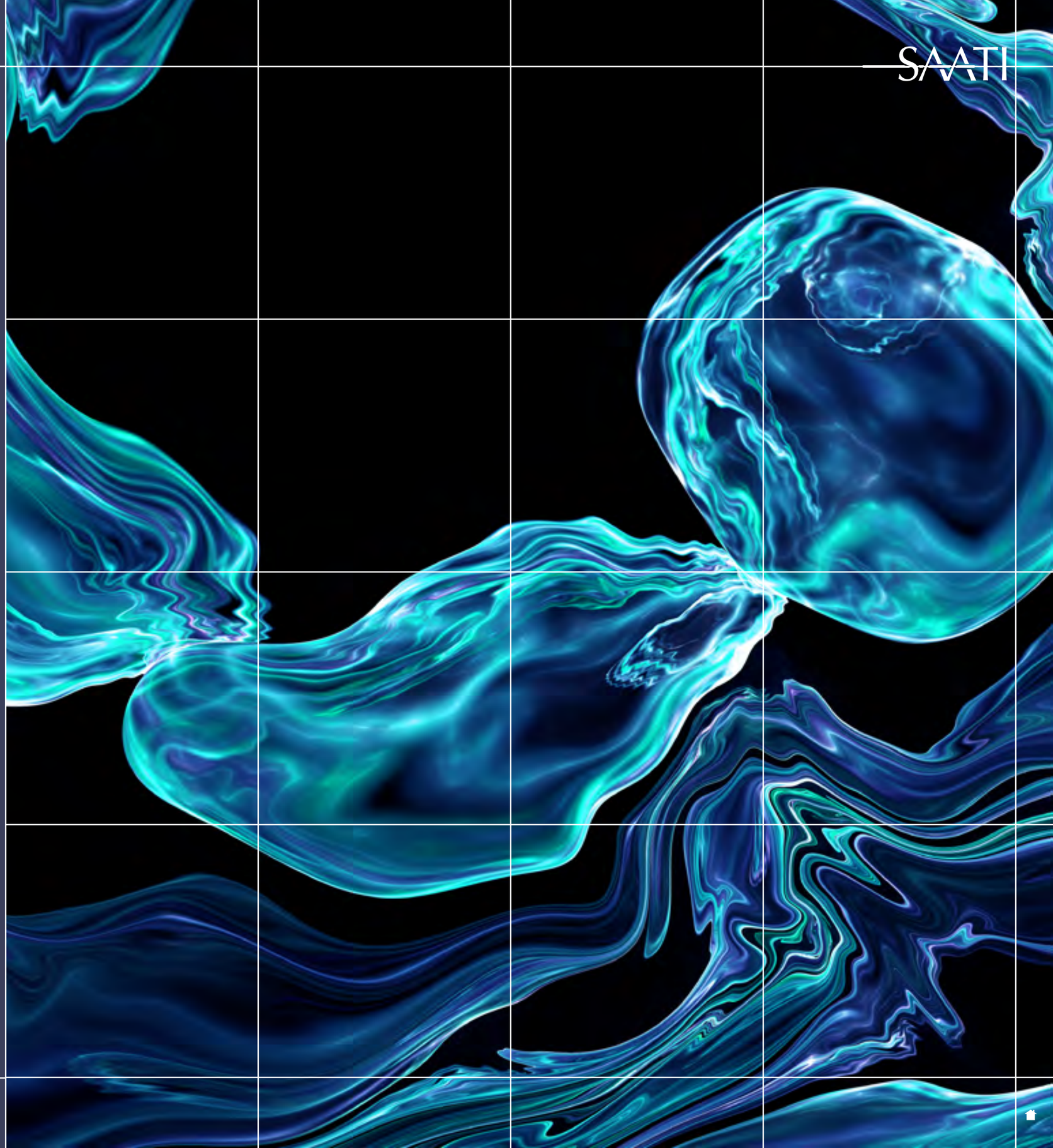
SAATIenergy embodies a new kind of alchemy—one where precision-woven fabrics help transmute water into hydrogen, powering the future with clean, sustainable energy. Engineered for the demanding world of electrochemical systems, SAATIenergy meshes are the invisible force behind high-performance electrolyzers, enabling energy regeneration with reliability, purity, and innovation.

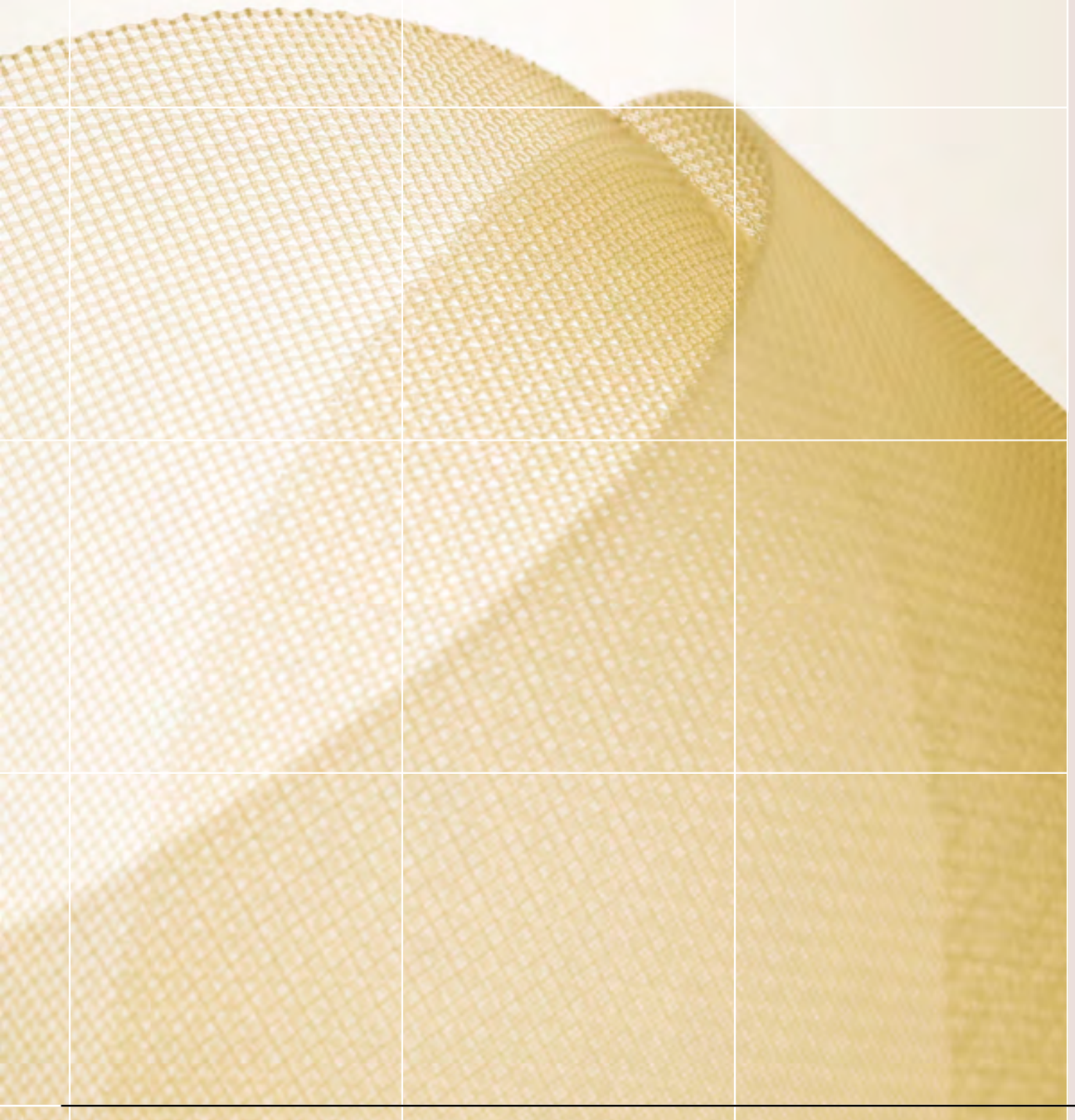
Woven from advanced polymers like PEEK and PPS, and entirely PFAS-free, SAATIenergy meshes deliver superior mechanical strength, thermal stability, and chemical resistance—even under extreme conditions. Their precision and durability make them essential components in the evolution of hydrogen generation and energy storage technologies.

From reinforcing membranes in PEM, AEM, and Alkaline electrolyzers to acting as feed spacers that enhance flow dynamics, SAATIenergy meshes are tailored to meet the most critical challenges of modern energy systems.

Key Features

- **Advanced Materials:** Made from high-performance PEEK and PPS polymers
- **PFAS-Free:** 100% fluorine-free for sustainable system design
- **Membrane Reinforcement:** Enhances durability under high pressure
- **Precision Weaving:** Uniform mesh with high open area and flatness
- **Electrochemical Versatility:** Suitable for PEM, AEM, Alkaline, and more
- **Flow Optimization:** Improves turbulence and protects membranes

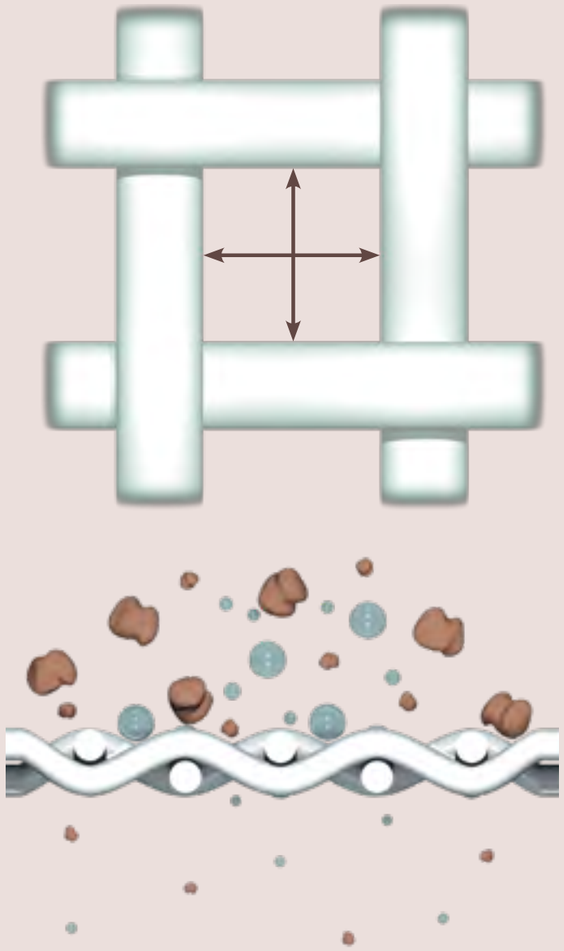




Woven Mesh: Designed for Precision

SAATI produces high-precision monofilament woven meshes specifically developed for the energy sector. These technical fabrics ensure dimensional stability, mechanical strength, and clean processing, all critical in demanding applications such as electrolyser stacks, fuel cell systems, battery modules, and fluid handling units.

Designed to meet the challenges of modern energy infrastructures, SAATI meshes offer consistent pore structure, essential for controlling flow dynamics, pressure drop, and particle retention in energy conversion and storage devices.



Diverse Polymer Meshes

A wide **range of polymers** meets different functional needs:

- **PET and PA66:** Ideal for general energy filtration and structural support
- **PP:** Offers excellent chemical resistance, suited for aggressive electrolytes
- **PPS and PEEK:** Withstand high temperatures and corrosive environments, typical in electrochemical cells and carbon capture technologies

Thanks to their **tenacity** and **thermal stability**, SAATI meshes are well-suited for insertion into membrane assemblies, laminated or coated composite structures, and overmolded sealing components. Their monofilament construction prevents fiber shedding, **minimizing the risk of contamination** in sensitive systems.

Fabrication

SAATI not only designs and produces rolls of precision woven fabrics, but also has the ability to engineer them into finished or partly finished products. Thanks to processing equipment and long experience, SAATI provides fabrics cut-to-fit, lot-to-lot consistency and high quality custom fabricated parts, in almost any requested shape. For the Energy sector, SAATI produces rolls, ribbons & shapes.

Shapes

SAATI fabricates shapes from woven mesh for energy applications.

Die-Cut or Laser cut parts can be provided in almost any shape or size with nominal dimensional quality.

One or more layers of material can be ultrasonically cut or sealed into virtually any shape using a CNC plotter, assuring a faithful reproduction of design.

Production Technology involved:
Cold (Die-Cut), Ultrasonics, Laser.

Ribbons

SAATI woven fabrics can be economically slit using heat or, if a tighter tolerance and improved edge quality are needed, the fabrics can be ultrasonically slit.

Production Technology involved: Heat, Ultrasonics.

Alkaline Water Electrolysis

Suggested Items

SAATIenergy PPS Meshes

Resilience for Green Hydrogen: Reinforcement Solutions for Alkaline Water Electrolysis

Alkaline Water Electrolysis (AWE) is a key enabler of green hydrogen production, accelerating the shift toward cleaner, renewable energy. To maximize efficiency, modern electrolyzer stacks operate at increasingly high internal pressures—placing significant mechanical demands on all internal components, especially the membranes and diaphragms that separate gases and enable ion exchange.

To ensure operational stability under these extreme conditions, membranes must be reinforced with materials that combine high mechanical strength, chemical compatibility, and long-term durability. Reinforcement meshes are essential to maintain membrane integrity, prevent deformation, and support continuous, high-output hydrogen generation in the most demanding environments.

SAATIenergy PPS Fabrics — Precision Reinforcement for Electrolytic Membranes

Designed specifically for integration within AWE systems, SAATIenergy fabrics are woven from high-tenacity PPS monofilaments with superior dimensional control. Their architecture enhances the structural integrity of membranes used in electrolysis, without compromising porosity or ion transport.

PFAS-free and chemically aligned with alkaline environments, SAATIenergy meshes offer reliable support for long-term performance in next-generation hydrogen production systems.

Key Features

- **Uniform thickness** and **open area** for optimal membrane performance
- **Mechanical Reinforcement** for membrane stability under high-pressure operating conditions
- **Dimensional Stability** in both directions thanks to Thermoset weave
- **Chemical Compatibility:** PPS composition matches the alkaline chemistry of AWE systems
- **PFAS-Free:** No intentionally added fluorinated substances, supporting green material choices

From electrolyzer stacks to composite membranes and diaphragm assemblies, SAATIenergy fabrics are essential to the reliability and efficiency of next-generation green hydrogen systems.

PEM / AEM Water Electrolysis

Suggested Items

SAATIenergy PEEK Meshes

Precision for Proton and Anion Exchange: Reinforcement Solutions for PEM and AEM Electrolyzers

Proton Exchange Membrane (PEM) and Anion Exchange Membrane (AEM) technologies are at the forefront of next-generation water electrolysis systems, enabling compact, efficient, and flexible hydrogen production. As these systems are pushed to operate at higher pressures and in increasingly aggressive chemical environments, the membranes at their core require reinforcement materials that deliver mechanical strength without compromising performance.

To meet these challenges, reinforcement fabrics must combine chemical and thermal resilience with the ability to support thinner, high-efficiency membranes—enabling enhanced ion exchange and consistent durability under stress.

SAATIenergy PEEK Fabrics — Ultra-Fine Reinforcement for High-Performance Membranes

Specifically engineered for use in PEM and AEM electrolyzers, SAATIenergy fabrics made from high-tenacity PEEK monofilaments enable membrane designs with reduced thickness and improved ion transport. Their precise weave ensures high open area, dimensional stability, and compatibility with harsh acidic or alkaline environments.

Fully PFAS-free⋆⋆, SAATIenergy PEEK fabrics support the development of clean, efficient hydrogen systems while meeting the highest sustainability standards.

Key Features

- **Ultra-Thin Mesh** Design enabling thinner membranes for higher ion exchange efficiency
- **Mechanical Stability** to Reinforces delicate membranes under high pressure
- **Dimensional Precision** with Uniform thickness and mesh geometry for seamless membrane integration
- **Chemical Versatility** as PEEK withstands both acidic and alkaline environments
- **PFAS-Free:** No intentionally added PFAS, aligning with green hydrogen goals

From PEM and AEM stacks to next-generation composite membranes, SAATIenergy PEEK fabrics are essential to the durability, performance, and sustainability of advanced hydrogen electrolysis systems.

Beyond Hydrogen

Versatility Across Electrochemical Systems

While hydrogen production is a key focus, the role of advanced membrane reinforcements extends far beyond. Electrochemical technologies are rapidly evolving to address global challenges such as energy storage, water purification, and carbon capture — and SAATIenergy fabrics are designed to support them all.

Woven from high-performance monofilaments such as PEEK, PPS, and other engineered polymers, SAATIenergy meshes offer controlled porosity, high mechanical strength, and dimensional precision. This makes them ideal for use in:

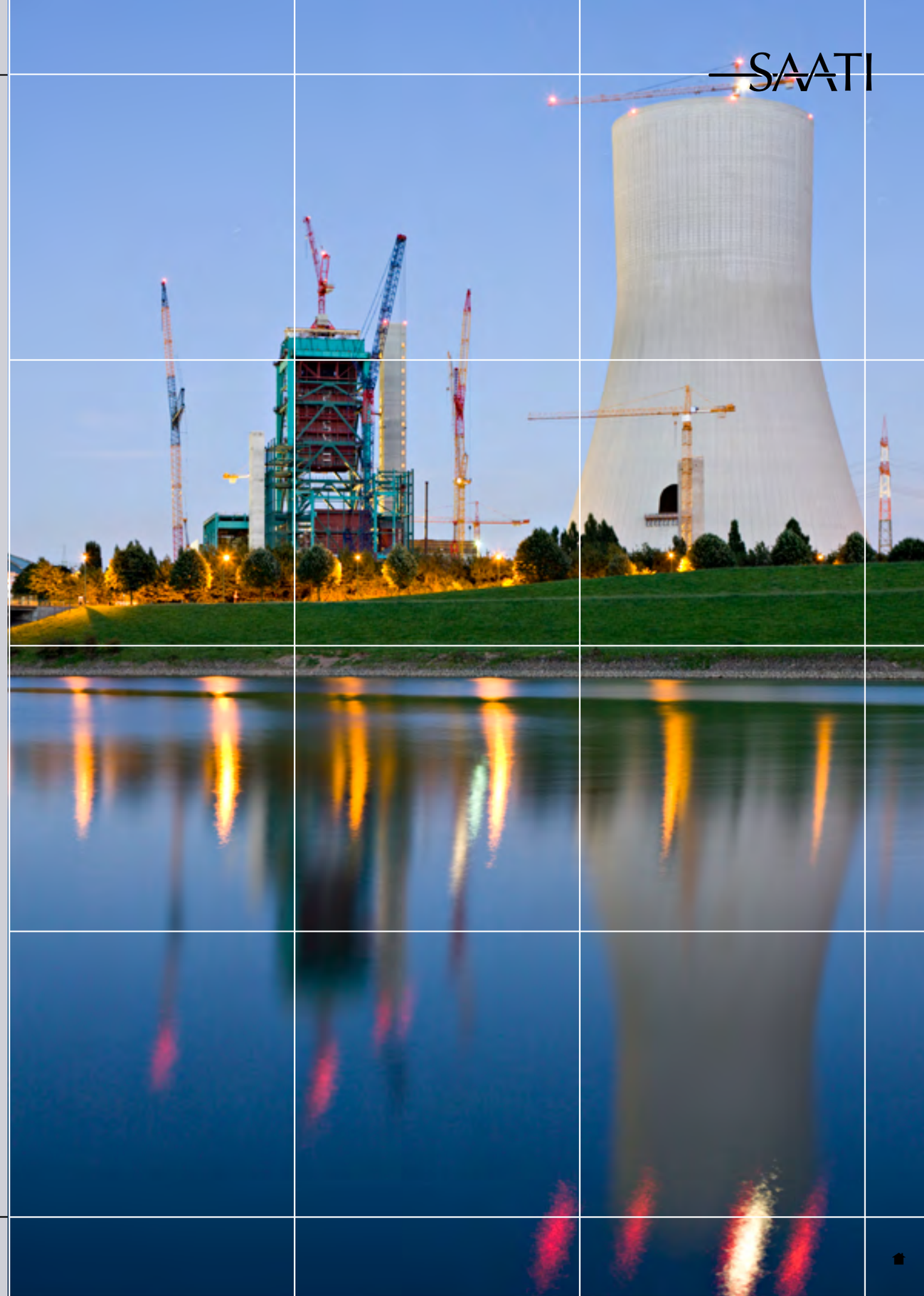
- **Electrodialysis** and water treatment systems
- **Carbon capture** membranes and separation units
- **Flow batteries** and energy storage technologies
- Custom composite membranes for **next-gen applications**
- **Feed channel spacers** to optimize fluid dynamics and protect membrane surfaces

SAATIenergy PEEK Fabrics — Ultra-Fine Reinforcement for High-Performance Membranes

In addition to membrane reinforcement, SAATIenergy meshes serve as feed spacers within electrochemical stacks — improving flow distribution, increasing turbulence, and preventing membrane damage, all while maintaining structural consistency.

With customizable materials and mesh architectures, SAATI delivers versatile, PFAS-free solutions tailored to the evolving demands of clean technology systems.

Wherever electrochemical performance depends on structure and stability — **SAATIenergy** is there.



SAATI

Testing & Validation

Advanced Laboratories to Guarantee Consistency and Performance

SAATI operates specialized laboratories for both quality control and applied research, supporting the development and validation of high-performance materials for demanding environments.

All products undergo rigorous testing protocols to verify their mechanical, chemical, and functional properties — from raw yarns to finished media.

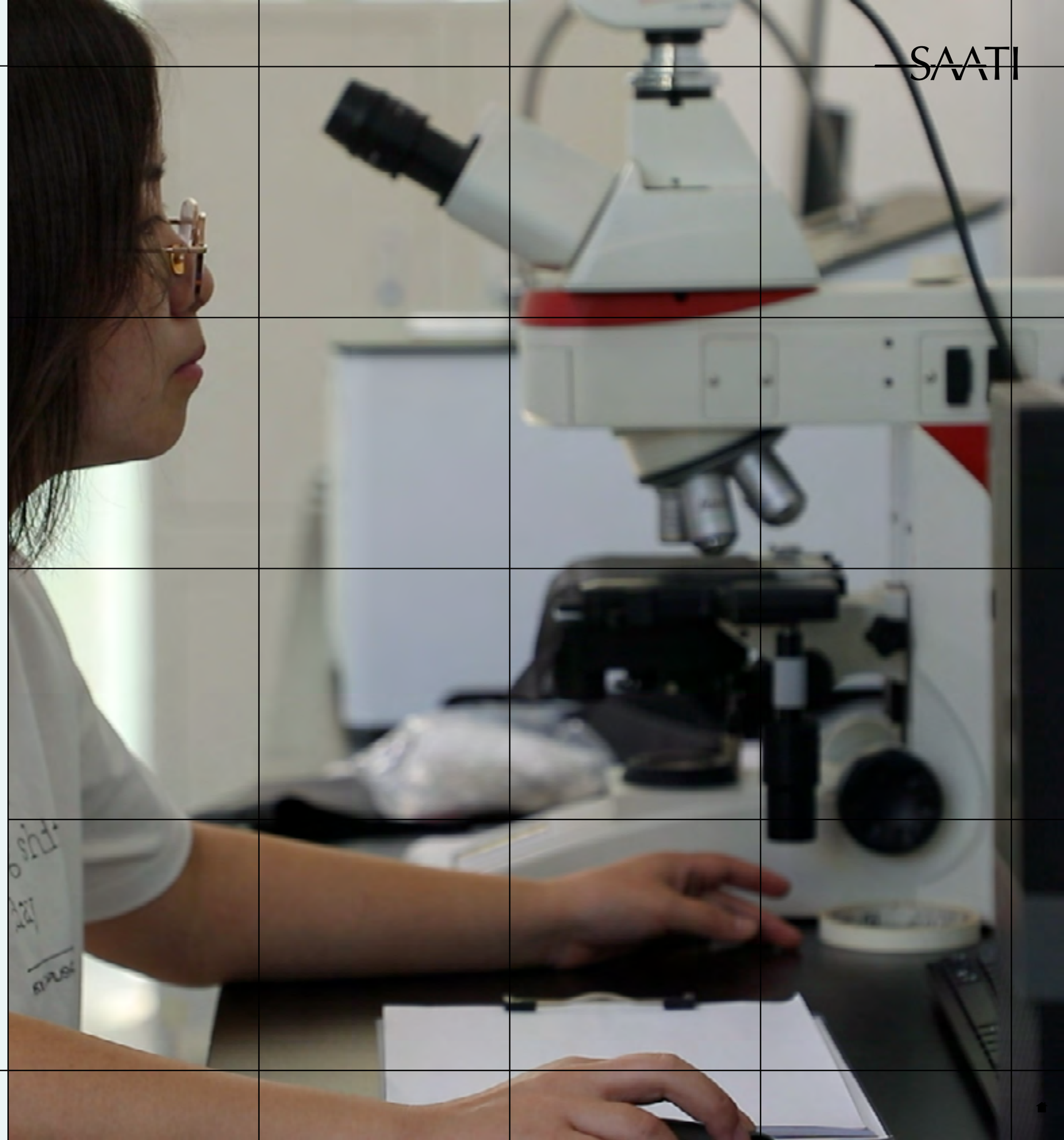
Material & Media Characterization

- Optical and SEM microscopy for surface and fiber analysis
- Porometry and air permeability testing for pore structure and flow performance
- Contact angle measurement to evaluate wetting and hydrophobicity

Mesh & Yarn Quality Control

- Dimensional checks on yarn diameter and mesh geometry
- Physical property testing for tensile strength, elongation, and stability
- Ongoing in-line and batch control to ensure consistent production output

SAATI combines laboratory precision with industrial reliability — ensuring every solution meets the highest energy standards.



SAATI

Innovation Center

Where Materials, Engineering and Market Needs Converge

SAATI's Innovation Center is a strategic asset dedicated to transforming ideas into engineered solutions. It supports both product innovation and process development, bridging customer needs and material science through a structured, multidisciplinary approach.

Organized into four synergic functions, the center enables fast feasibility validation, application-tailored prototyping, and early-stage performance assessment — accelerating time-to-market and reducing technical risk.

Advanced R&D

- Scouting and evaluation of emerging materials and technologies
- Development of functional treatments and applied innovation for next-generation media

Product Development

- Transformation of market input into product concepts
- Feasibility analysis, rapid prototype creation, and pre-series production
- Early validation of technical and industrial scalability

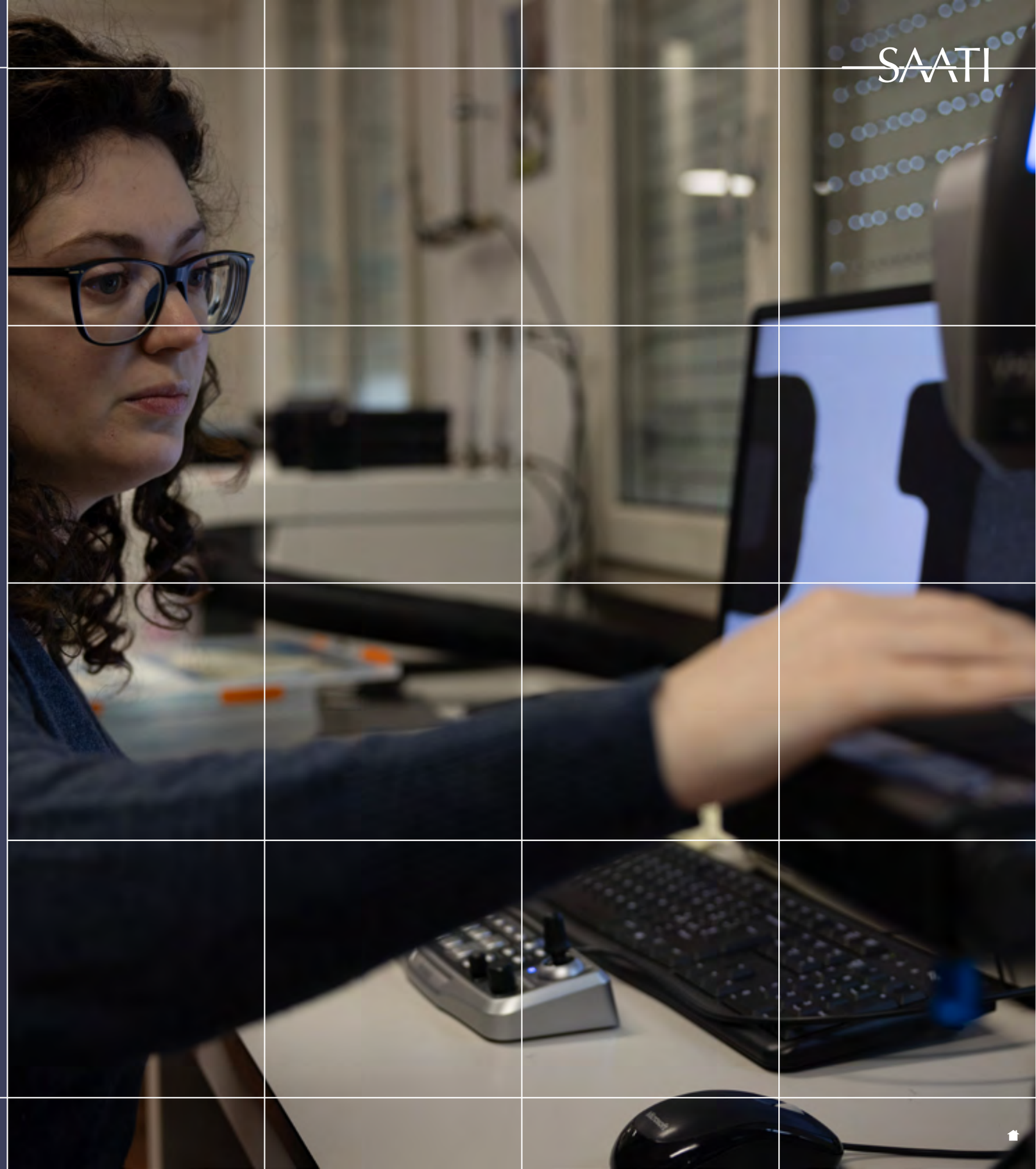
Application Engineering

- In-depth application studies to optimize integration, durability, and cost-efficiency
- Support for design-to-performance matching
- Internal standardization and process harmonization

R&D Lab

- Testing and characterization of prototypes and raw materials
- Collection of performance data and comparative results
- Continuous integration of new testing protocols and analytical methods

SAATI combines laboratory precision with industrial reliability — ensuring every solution meets the highest automotive standards.



Let’s Design with Purpose. Together.

In every mesh, every membrane, every detail lies the potential to make hydrogen production not just more efficient, but more scalable, durable, and environmentally responsible.

SAATI invites engineers, designers, and innovators to reimagine how advanced materials can power the energy transition. To move beyond standard reinforcement. To focus on how each fabric contributes to cleaner systems, longer lifespans, and a more sustainable energy ecosystem.

If you believe that precision is the foundation of progress, you're already helping shape the future of energy.

Let's build it. Together.

Contact us to start a conversation, request a prototype, or co-develop your next electrochemical solution.

Click the Button to Contact Us

SAATI produces many products for all types of markets that find their way into the daily life of billions of people. We are leaders in both process and microfiltration, screen printing, and personal and vehicular multi-threat protection products.

Over Ninety Years of Innovative Action

SAATI is a multinational group with corporate headquarters that have been situated in northern Italy since 1935. Today SAATI is a leading force in the development, manufacturing and commercialization of high tech filter media & chemicals.

SAATI's passion and creativity are the foundation for an unsurpassed tradition of continuous innovation in the filtration markets. This endless pursuit is what drives SAATI's dedicated customer-centric R&D to functionalize products beyond simple filtration.

The offering includes a broad range of synthetic fabrics and fabricated components — available in Polyester, Nylon, Polypropylene, PPS, and PEEK — engineered to ensure dimensional stability, mechanical strength, and cleanliness across narrow micron tolerances (7 to 3,000 µm). These materials are designed for consistent performance in demanding filtration environments.

In parallel, SAATI designs and produces functional venting membranes for pressure equalization, combining air permeability and liquid repellency to protect sensitive devices and systems. Tailored polymer formulations and precision processes ensure each membrane delivers reliable and application-specific performance.

Perfecting the Art of Precision Filter Media

With over 1,000 employees spread across multiple facilities worldwide, and a strong established track record in innovation and manufacturing excellence, SAATI's mission is to improve the life of every person every day – through working with both customers and partners to create a safer, healthier and cleaner world.

To guarantee product reliability, SAATI constantly runs tests and has all of the stritctest and most up to date certifications that validate the consistency, performance, quality and characteristics of each item.

Specific SAATI fabrics are tested and certified in accordance with USP CLASS VI/ISO 10993 Regulations, and these fabrics are inspected and transformed into customized shapes in Class 10,000/ISO Class 7 Clean Rooms in accordance with UNI ISO 9001 regulations.

Interactive Index

Disclaimer

The information provided in this brochure is intended for general informational purposes only. While we strive to ensure the accuracy and reliability of the details about our products, we can not guarantee that all information is complete or up-to-date. Users should request to SAATI for the technical specifications of the products before submitting any purchase order and verify the suitability of products for their intended use as well as products compliance with any applicable laws, based on such use.

We strongly recommend conducting appropriate tests and evaluations to ensure compatibility and safety for specific applications.

SAATI is not responsible for any damage or harm resulting from the improper use, application or handling of the products. Always follow the safety instructions provided with each product and consult relevant guidelines and regulations in your region before use.

All products, drawings, products specifications and data in this brochure are subject to change without notice to improve reliability, function, design or otherwise. Not all products and/or product features may be available in all countries and regions.

For more information, please contact our customer service team.

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