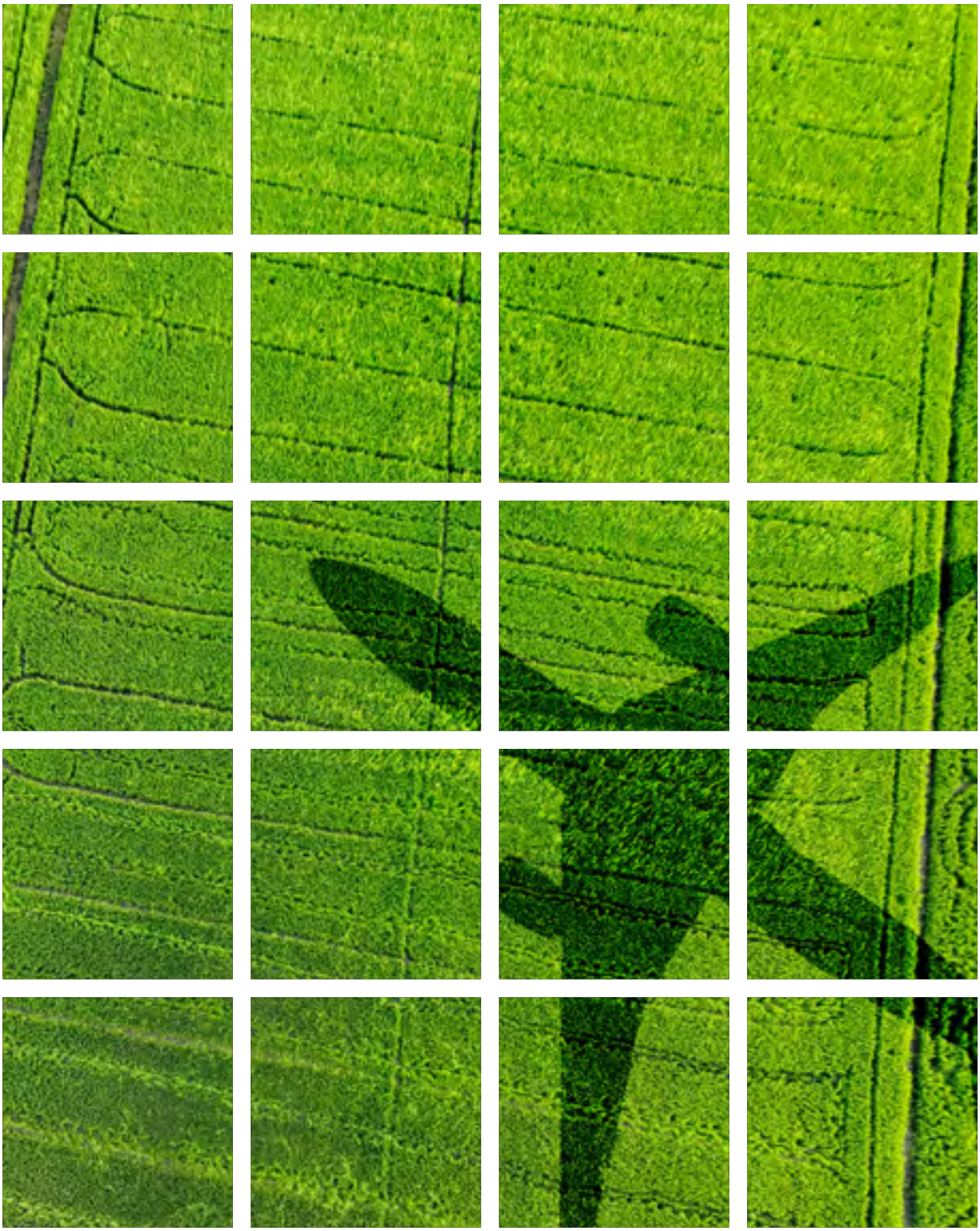

SAATI Aerospace

Membrane, Precision Fabrics & Components for Aerospace Applications

FOR THE MANY, BY THE FEW

SAATI

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FOR THE MANY, BY THE FEW

Sustainability in Flight

Driving Responsible Innovation in the Aerospace Industry

In an era defined by performance and global mobility, SAATI believes that aerospace innovation must also address today's environmental and social challenges. The aerospace sector is undergoing rapid transformation, not only in terms of technology and efficiency, but in how it contributes to a more sustainable future.

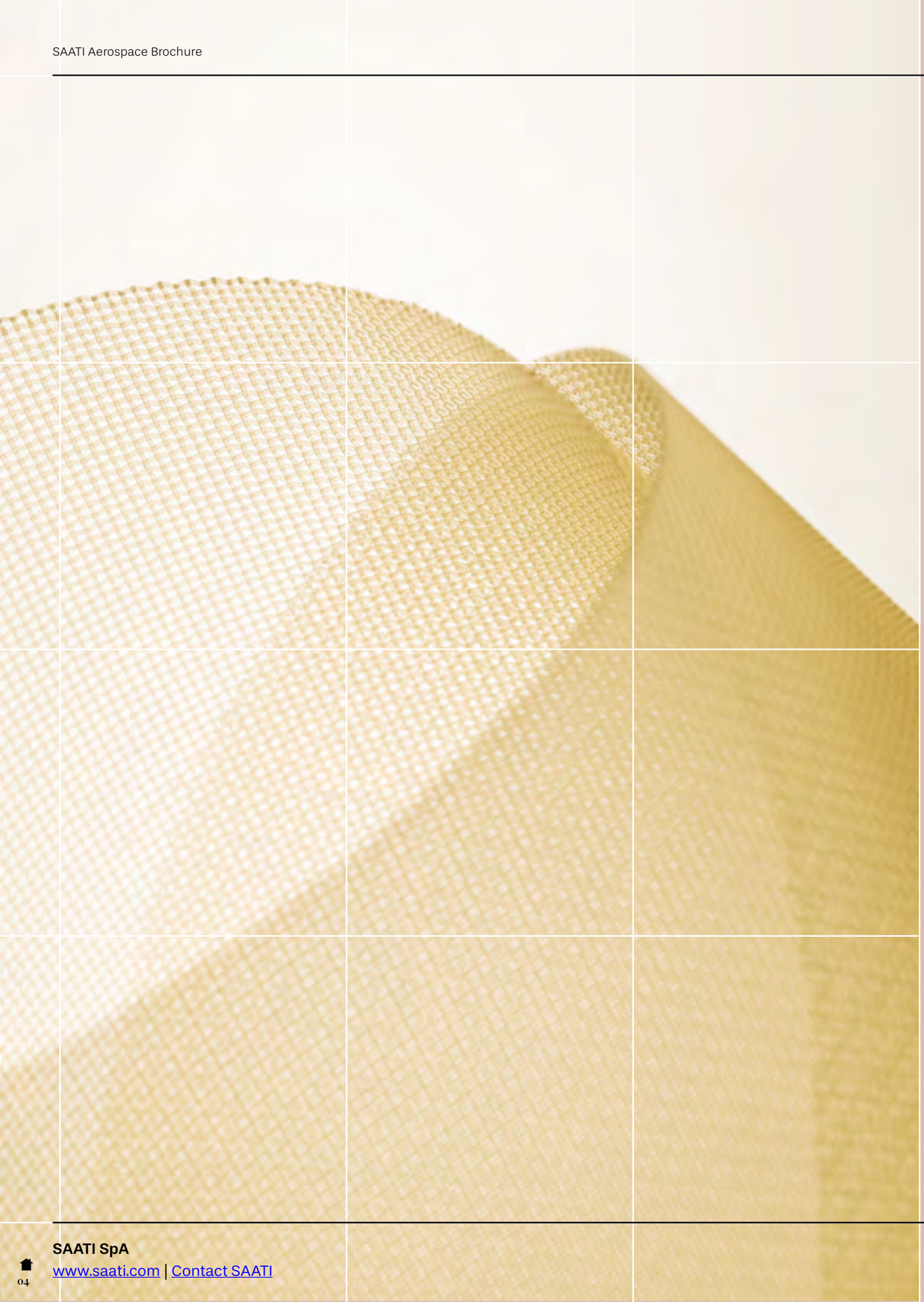
SAATI integrates sustainability into every level of its operations and product development. The goal is clear: to design and manufacture advanced components that enhance flight performance, passenger comfort and system safety, while reducing environmental impact across the lifecycle.

Through renewable energy use, PFAS-free developments, and durable, lightweight materials, SAATI supports aerospace manufacturers in meeting both technical requirements and global sustainability targets. This approach makes SAATI a reliable, long-term partner for those seeking high-performance solutions aligned with environmental responsibility.

Commitments in Action

- 100% of electricity used is from **renewable energy sources**
- **EcoVadis-certified** sustainability management
- Active development of **PFAS-FREE membrane and mesh options**
- Durable, efficient, and recyclable materials engineered to last
- Ongoing investment in **sustainable innovation for automotive**

SAATI is committed to building ground breaking materials that not only perform — but also protect. Because true innovation moves us forward, responsibly.



Designed Precision: Woven Mesh

SAATI produces high-precision monofilament woven meshes specifically designed for filtration and protection in automotive components. These technical fabrics combine dimensional stability, mechanical strength, and clean processing, essential in critical systems such as fuel, fluid handling, lighting, and sensor housings.

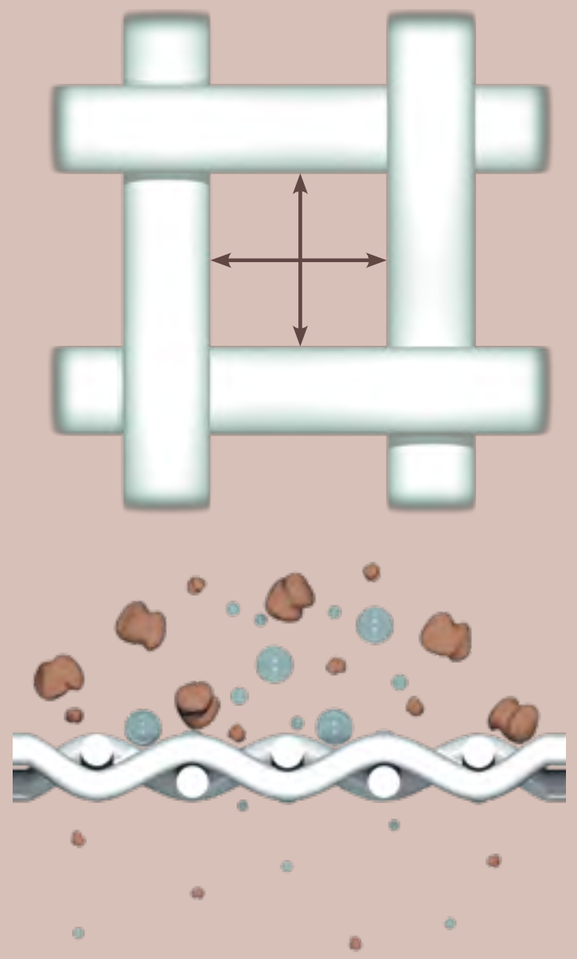
The use of monofilaments with extremely tight diameter control ensures consistent mesh openings and predictable filtration performance, vital in managing flow, pressure drop, and particle retention.

Diverse Polymer Meshes

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

- **PET** and **PA66** for general-purpose applications,
- **PP** for enhanced **chemical compatibility**,
- **PPS** and **PEEK** for use in **high-temperature and chemically aggressive environments**.
- SAATI meshes are also ideal for **injection molding** and **plastic overmolding** thanks to their tenacity and thermal stability. Their **non-shedding monofilament structure** reduces the risk of particulate release, a key advantage in sensitive automotive systems.

Materials can be supplied in a variety of **custom formats**, from narrow ribbons and die-cut sheets to tubular structures, making integration into existing assembly processes efficient and flexible.



SAATI

Woven Mesh

Fabricated Meshes

Final Components

As constructed by final customers

Fabricated Components

SAATI not only designs and produces precision woven fabrics but 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.

Ribbon

SAATI membrane & 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.

Tubes - Cut to Length

For all applications requiring molded cylindrical filters, SAATI offers fabrics tubes and rectangles with two open ends, cold or laser cut to length.

Many applications can accept the quality of a cold cut tube in view of its economic advantage.

On the contrary, if the component must have one end sealed and one end open, SAATI is able to combine the two technologies in the same process and supply tubes with one ultrasonically sealed end.

Ultrasonic technology is also applied to the realization of rectangle filters.

Production technology involved: Cold (Die-Cut), Heat, Ultrasonic.

Continuous Tubes

Two layers of filter media are simultaneously slit with heated blades to form a continuous tube.

Ultrasonically welded tubular ribbons, although similar in construction to heat slit items, can be produced in a wide range of sizes, including very small ones.

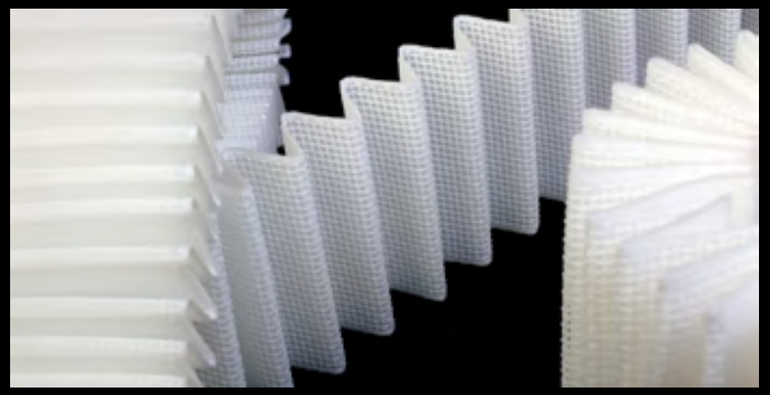
Two or more narrow layers can be attached using ultrasonic slitting, a fine filtration media can be supported or protected with a coarser one.

Production Technology involved: Heat, Ultrasonics.

Pleated Components

Mono or Multi-layer pleated components such as pack, ribbon and cartridges, can be manufactured for all applications requiring high filtration capacity in a narrow space.

Production technology involved: Heat And Ultrasonics.



Shapes

SAATI fabricates shapes with either membrane or woven mesh.

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.

Brands

SAATIfil

The Essence of Precision Woven Mesh

SAATIfil represents the historical foundation of SAATI's expertise, offering comprehensive range of **high-tenacity monofilament woven meshes**, renowned for their **precision, consistency,** and **durability**.

Manufactured exclusively from **pure polymers**, without coatings or additives, SAATIfil meshes deliver **clean performance** and **dimensional stability** across a wide spectrum of industrial applications. Every mesh is the result of a **rigorous, highly controlled manufacturing process**, ensuring compliance with the highest international standards.

From **industrial filtration** to **specialized technical assemblies**, SAATIfil is trusted wherever mechanical integrity and repeatable performance are critical.

Key Benefits

- Made from high-tenacity monofilament yarns
- Excellent mechanical resistance and long-term stability
- Uniform geometry and pore control
- No coatings or additives: 100% polymer-based purity

Brands

SAATImotion

The Explorer of Modern Mobility

SAATImotion is the explorer of the automotive world — a brand that charts its course through the **complex landscapes of modern vehicle systems**, turning every engineering challenge into an opportunity for innovation.

Like a seasoned adventurer, SAATImotion navigates **extreme temperatures, chemical aggression**, and **dynamic pressures** with precision and resilience. From conventional powertrains to the most advanced **electric and hydrogen platforms**, it adapts with purpose and performs with consistency.

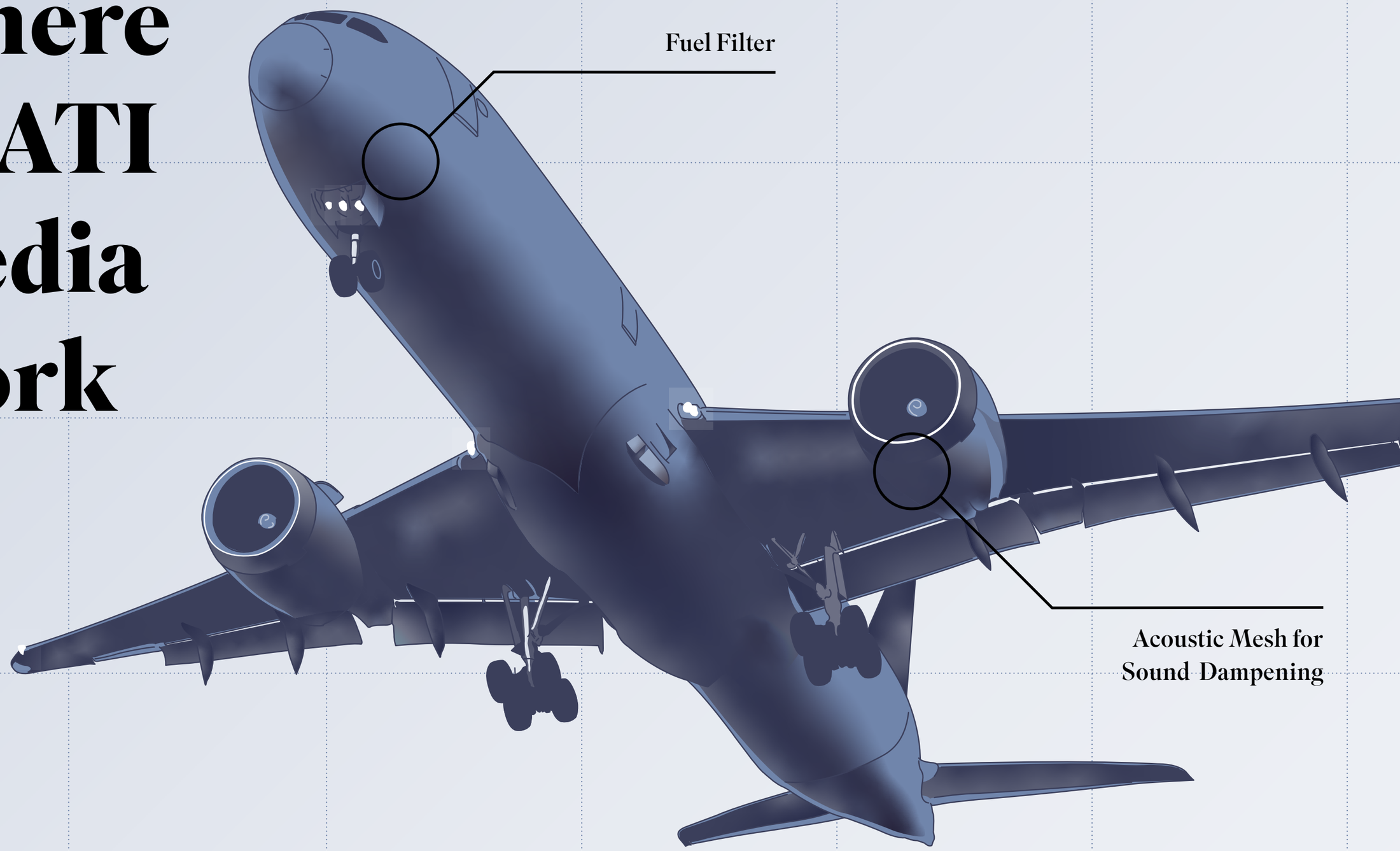
Every vehicle system is a journey. SAATImotion provides the fabrics that make it **efficient, durable**, and **sustainable** — thread by thread, system by system.

Key Benefits

- Materials engineered for heat, pressure, and chemical resistance
- Tailored for filtration, separation, and structural integration
- Compatible with injection molding and high-precision assemblies
- Supports innovation across ICE, BEV, FCEV, and hybrid systems

SAATI

Where SAATI Media Work



Precision Under Control Filtration Solutions for Aviation Fuel Systems

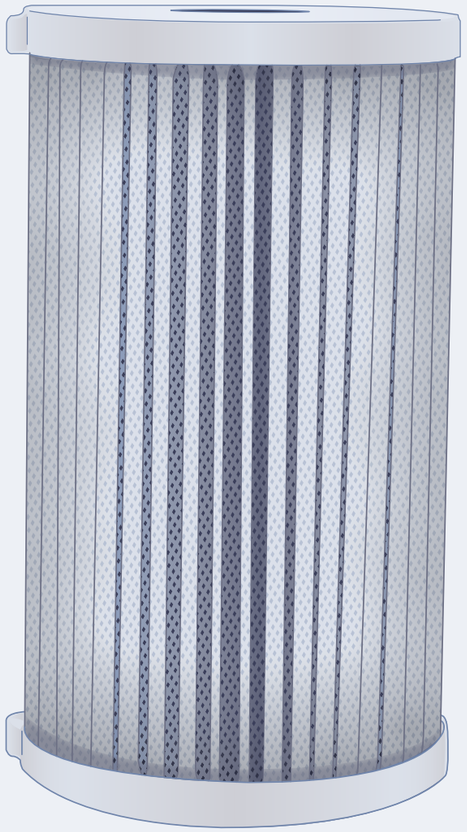
Suggested Items

SAATImotion Meshes

In aerospace, **fuel purity** is essential to ensure both safety and engine performance. Contaminants such as water, particulates, or microbial growth can degrade fuel quality, leading to corrosion, injector blockages, and reduced system efficiency.

Aircraft operate in **extreme and variable environments**, where thermal excursions, high altitudes, and long operating cycles increase the risk of fuel contamination. Reliable filtration is therefore critical across the entire fuel system, from tanks and pumps to engine interfaces.

SAATI develops technical mesh solutions that guarantee **consistent filtration performance** while supporting the design of lightweight, compact, and efficient components for civil and military aviation.



SAATImotion Mesh - Advanced Filtration for Jet Fuel Systems

SAATImotion woven meshes are engineered for the high demands of aerospace fuel applications. Using **hydrophobically coated polyester monofilaments**, these meshes act as efficient water barriers while preserving optimal fuel flow. The coating repels microdroplets of water, preventing phase separation and maintaining separator performance over time.

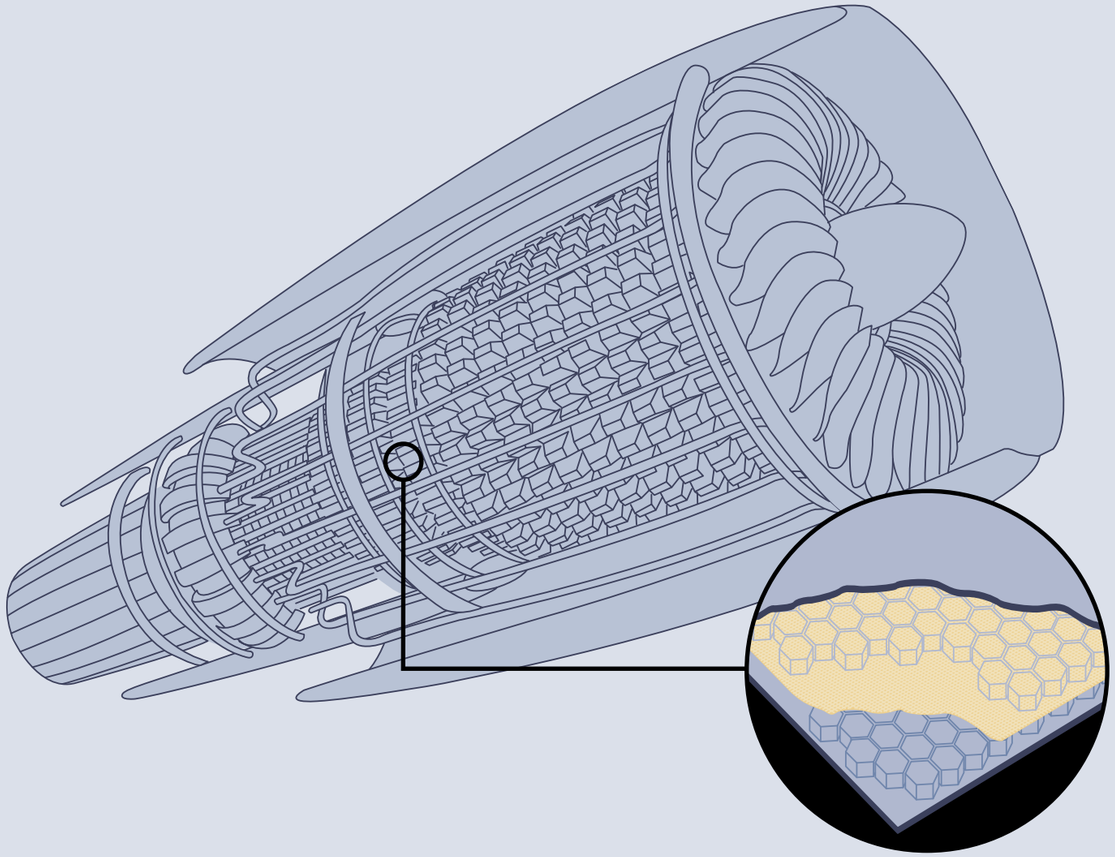
Their **excellent chemical compatibility** with jet fuels, combined with thermal resistance and structural integrity, makes them ideal for use in **separators**, filters, and coalescers operating under the most challenging conditions.

Key Benefits

- High filtration **precision** with consistent mesh geometry
- **Hydrophobic** surface treatment for efficient water blocking
- Resistance to jet fuel and aggressive fluids
- **Dimensional stability** under temperature variations
- Long-term reliability in critical aerospace fuel systems

Clean fuel. Safe flight.

With SAATImotion, aerospace fuel systems gain the protection they need to perform without compromise.



Suggested Items

SAATIfil PEEK meshes

Acoustic Mesh for Sound Dampening

Silence in Motion: Acoustic Mesh Solutions for Aerospace Noise Control

In aerospace, effective sound management is more than a comfort feature. It is a technical necessity. Noise generated during takeoff, landing, and engine operation not only affects passenger well-being but can also contribute to structural fatigue and environmental impact.

Advanced noise-reduction systems are now an integral part of aircraft design. These systems rely on technical materials capable of resisting extreme operating conditions while delivering precise acoustic performance.

SAATI develops engineered mesh fabrics specifically designed to optimize acoustic dampening in aerospace components, offering a balance of durability, lightweight structure, and sound-control efficiency.

SAATIfil PEEK Meshes - High-Performance Fabrics for Sound Suppression Systems

SAATIfil PEEK woven meshes are **custom-developed** for use in acoustic applications across the aerospace sector. Thanks to their optimized structure, they offer controlled airflow resistance and acoustic impedance, essential for reducing engine and aerodynamic noise in fuselage panels, nacelles, and noise-absorbing liners.

Using high-performance polymers such as **PEEK**, these fabrics maintain structural stability under extreme temperature changes, vibrations, and chemical exposure. Their resistance to thermal and mechanical stress makes them ideal for long-term integration in complex sound-dampening systems.

Tailored to meet the **specific acoustic profile** required, SAATIfil PEEK meshes can be adapted in terms of thickness, permeability, and geometry, ensuring compatibility with composite assemblies and advanced insulation systems.

Key Benefits

- **Acoustic impedance** optimized for effective sound suppression
- High **thermal and chemical resistance** using PEEK monofilaments
- **Mechanical stability** under dynamic aerospace conditions
- **Lightweight construction** supporting aircraft weight-saving goals
- Custom formats and integration-ready design for acoustic modules

Engineered silence for modern flight

SAATIfil acoustic meshes help aerospace manufacturers reduce noise without compromising performance

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

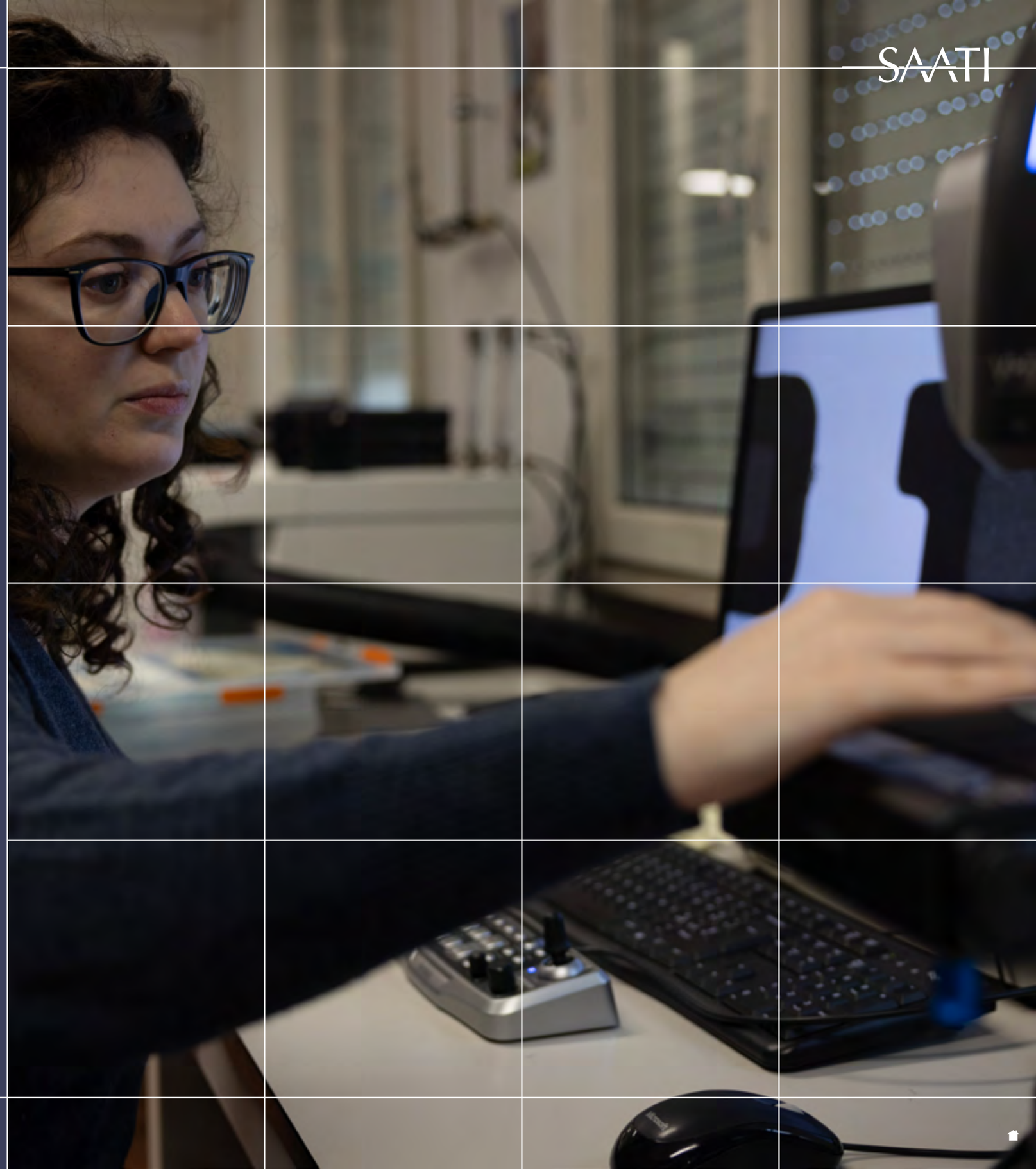
Application Engineering

- 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.



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

Performance Testing & Simulations

- Dedicated test benches for air, oil, and fuel filtration
- Liquid entry pressure (WEP) and airflow tests
- Acoustic lab equipped for:
  - Acoustic impedance
  - Insertion loss
  - THD, SPL and simulation for speaker membranes and sound-transparent media

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

SAATI

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.

SAATI's wide range of synthetic textiles and fabricated parts in Polyester, Nylon, Polypropylene, PEEK and PPS are the ideal engineered solution for demanding microfiltration applications.

Through specialized processing and rigorous inspection, SAATI ensures consistent lot quality across tolerances, uniformity, strength, stability, and cleanliness for applications with pore sizes from 7 to 3,000 microns.

Perfecting the Art of Precision Woven Fabrics

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.

Let's Design with Purpose. Together.

In every component, every filter, every mesh — lies the potential to make vehicles not just more efficient, but more intelligent, sustainable, and future-ready.

SAATI invites designers, engineers, and innovators to rethink the way materials shape performance. To go beyond the obvious. To consider not just what a product does, but how it does it — and what it contributes to the systems that move us all.

If you believe that precision and responsibility go hand in hand, you're already designing the future.

Let's build it. Together.

Contact us to start a conversation, request a prototype, or co-develop a new solution.

Click the Button to Contact Us

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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.

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