



IMF | PROTECTION
FOR LIFE

International Metal Foam AG

Innovative metal technology for the defense market

International Metal Foam AG is a global company that operates under a licensing model in the field of production and marketing of highly innovative components for defense products in the international defense industry.

These product solutions, made from special metal foam, are used worldwide to protect civilian, critical, and military infrastructure against gunfire, explosions, shrapnel, and sabotage.



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When innovations create impact



Innovation is
like a
responsibility
for me

Since 1978, metal foam has been the subject of continuous research – from fundamental materials science to today's industrial applications. Our work at IMF is built on this knowledge, on decades of experience, and on the global demand for reliable protection.

For me, technology is not an end in itself. It is a tool to take responsibility. In a world shaped by crises – from natural disasters to conflicts and growing uncertainty – innovation must achieve more than creating new possibilities. It must protect what truly matters: human lives, infrastructure, and stability.

The need for safety is a basic human instinct, deeply rooted within us. It drives our research and development. Together with the Fraunhofer Institute and our international partners, we create solutions that meet this demand – precise, responsible, and forward-looking.

Our goal is to protect, not to destroy. Technology should create security, not threats. That is what we work for – with passion, with conviction, and with the understanding that true innovation only gains meaning when it serves humanity.

Prof. Dr. Dirk Zielke
Member of the Board of Directors

Vision & Values

Protection with Foresight

The world we live in has become more complex, more interconnected, and more vulnerable. Conflicts today no longer take place only along visible frontlines – they run through networks, systems, and infrastructures.

Energy, communication, transportation, information – the very structures that sustain our daily lives have become the new targets. In this reality, traditional defense is no longer enough. Security must be redefined – comprehensive, intelligent, and integrated. This is where International Metal Foam AG comes in. We stand for protection that goes beyond the military context. For solutions that take effect where vulnerability is often overlooked: at the strategic junctions of modern societies.

Our mission is to secure the invisible – from a nation's energy supply, to its data networks, transport systems, and communication hubs.

IMF AG was founded on the conviction that responsibility and technology are inseparable. Protection should not be a reactive reflex that emerges only when a threat becomes visible. Protection must be a proactive principle – embedded in every system, every structure, every material.

Our metal foam technology embodies this belief: it combines strength with lightness, resilience with adaptability, engineering excellence with moral clarity.

It is a physical manifestation of the idea that progress must never come at the expense of safety – and that safety must never come at the expense of the future. We develop materials that carry responsibility. Systems that embody resilience without becoming inflexible. Technologies that protect without destroying. Because the true purpose of protection is not to draw boundaries – but to preserve stability.

IMF stands for shaping that stability: with knowledge, with foresight, and with the conviction that security is the foundation of every free and functioning society.

Our vision is a world where protection is not an emergency response, but a built-in element of progress. A world in which states, companies and people can rely on what they build on to last.



Research & Fields of Application

For more than four decades, metal foam has been the subject of intensive research and continuous development.

Our current solutions are built on this ongoing work – on our own research and development, and on close collaboration with the Fraunhofer Institute and international partners.

The technology combines lightness, strength, and energy absorption, enabling a wide range of applications in areas where protection and efficiency are essential.

Military Protection Solutions

Our materials are designed and engineered for military requirements. They offer high energy absorption at low weight and can be modularly integrated into vehicle structures, protective walls, and mobile systems. During planning and implementation, we collaborate with defense engineers to deliver protection concepts that are operable, testable, and maintainable.

Stealth & EMP Protection

Metal foam reduces radar and radio reflections while simultaneously protecting against electromagnetic pulses and solar storms. Its conductive cellular structure shields sensitive electronics and prevents failures in systems with microprocessors. The result is a lightweight and robust material for stealth applications, protective housings, and critical infrastructures.

Protection & Armor

The porous metal matrix absorbs impact energy and reduces fragmentation effects. Solutions based on metal foam offer an excellent weight-to-protection ratio compared to conventional armor. They are suitable for add-on armor and stationary protective barriers where maximum protection with minimal weight is required.

Vehicle Protection

In vehicle construction, metal foam reduces weight while increasing the structural resilience of the vehicle. The result is greater mobility, extended range, and improved occupant protection under real operating conditions. Our solutions are designed for near-series integration and can be easily incorporated into both new and retrofitted platforms.

Building Protection

For buildings, our systems provide protection against blast impacts, secondary damage from fragmentation, and prolonged vibration stress. They serve to structurally reinforce operation centers, command rooms, and control facilities, as well as access areas. The technology ensures stability and operational reliability even under extreme conditions.

Data Center & IT Protection

Data centers require reliable protection against overheating, vibration, and electromagnetic interference. Metal foam effectively dampens vibrations, promotes uniform heat dissipation, and provides shielding against electromagnetic pulses and stress. This ensures the continuous operational reliability of IT infrastructure, even in crisis situations.

Our Identity

International Metal Foam AG redefines protection - not as a product, but as a mindset. We see security as the foundation of modern societies - a responsibility that must be shaped with foresight. Our technology embodies this philosophy: it combines engineering excellence with a sense of purpose, responsibility, and a vision for the future.

IMF is not a weapons manufacturer but an architect of security systems. We license knowledge and technology to enable partners worldwide to independently develop and implement protection solutions locally. This model strengthens regional sovereignty, shortens supply chains, and builds trust in critical sectors. We work closely with research institutions, the industry, and public authorities to anchor innovation where it is needed most. We see security not as a possession, but as a shared responsibility.

Our identity rests on three principles: trust, precision, and responsibility. Trust is the foundation of every collaboration. Anyone who promises protection must be credible - in research, development, and implementation. Our technology is the result of years of scientific work and consistent advancement.

Precision is our standard. Security allows no compromises. Every detail matters - from material structure to production licensing. Efficiency does not occur by chance; it emerges from experience, control, and the constant drive to improve. Responsibility is our motivation. Technology can only be sustainable if it is ethically sound. We develop systems that protect without destroying - solutions that create resilience without wasting resources. Our work follows a simple idea: stability is the foundation of every functioning society. This belief shapes how we think, act, and innovate. It defines who IMF is - at its core and in every partnership.

Security arises not from strength alone, but from mutual understanding - from knowledge that is shared and from technology that carries responsibility. That is the identity of International Metal Foam AG.





Protection through innovation and responsibility

Protection is not a privilege. Protection is a basic need. It is the quiet foundation of every free society - often invisible, yet always essential. We believe that technology must not only perform, but serve: people, their environment and their future. That is why we develop materials that do more than withstand - they preserve what truly matters.



Innovation

Progress begins where knowledge meets responsibility. Our metal foam technology is the result of decades of research and the conviction that lightness and stability are not mutually exclusive. Its cellular structure absorbs energy, reduces vibrations, and protects against thermal or electromagnetic stress — all with significantly less material use than conventional solutions. For us, innovation is not a race, but a process of understanding: every improvement is a step toward greater safety and reduced impact.



Responsibility

Responsibility begins where decisions create impact. We manufacture according to clear environmental standards, use recyclable materials, and rely on regional licensing production to shorten transport routes and strengthen local value creation. This model reduces emissions, creates jobs, and makes protection independent of geopolitical risks. Responsibility means using technology in a way that empowers rather than weakens - neither resources nor societies.



Future

The future of protection lies not in isolation, but in integration. We develop materials that blend seamlessly into structures - vehicles, buildings, bridges, or energy systems - enhancing their resilience without adding weight. Our goal is a world in which security is not a condition, but a characteristic. Technology that carries responsibility is the key to achieving it.

Fields of Application

Multifunctional protection with targeted effect



Energy Infrastructure

Metal foam protects critical energy facilities from pressure, heat, and structural stress. In hydropower plants, substations, or energy centers, it safeguards load-bearing structures and housings against explosions or fires. This ensures a stable, secure, and sustainable energy supply, even under extreme conditions.



Maritime Applications

In shipbuilding, metal foam reduces weight without compromising stability. Containers and vessel components become lighter, more efficient, and more economical in operation. With buoyant modules, even units lost overboard can be recovered — contributing to both safety and resource conservation.



Aerospace

Lightness is essential in aviation. Metal foam combines low weight with exceptional strength and energy absorption. It enables lighter structures that reduce fuel consumption while increasing safety — from the cabin to the engine casing.



Vehicles

In vehicles, metal foam enhances safety without adding weight. It reinforces crumple zones, absorbs impact energy, and increases crash resistance. The result is vehicles that are not only more efficient but also more protective of human life.

Certification & Customization of new Solutions

Every country has its own security requirements and standards. Through direct collaboration with our partners, International Metal Foam AG develops and certifies solutions tailored to national regulations and operational conditions. This results in protection systems that are not only technically advanced but also legally and structurally ready for immediate implementation - individually tested, approved, and built to carry responsibility.

Vehicle Armor

In critical operations, protection must be absolutely reliable. Metal foam provides high ballistic resistance at a significantly lower weight than conventional armor. It safeguards transported goods - and, above all, human lives - where traditional systems reach their limits.

**Buildings & Infrastructure**

Metal foam becomes the protective skin of modern architecture. It withstands explosions, fire, and ballistic impact while providing both thermal and electromagnetic shielding. In this way, it protects not only buildings but also information - extending even to stealth applications in both civilian and military sectors.

**Mobile Command Units**

Sensitive mobile units require protection without sacrificing mobility. Metal foam provides defense against ballistic impact, fragmentation, and blast pressure while also offering electromagnetic shielding. It makes command units resilient, secure, and reliably deployable - wherever stability is essential.

**Personal Protective Equipment**

Those who take action need protection that thinks ahead. Metal foam enables lightweight, durable protective gear - from helmets to armor plates. Every gram saved means greater freedom of movement without compromising safety.



Sustainability

Technology in Harmony with Responsibility

Sustainability is not an addition - it is part of our identity.

International Metal Foam AG combines technological precision with environmental awareness and social responsibility. We believe that protection is only credible when it is created sustainably - through processes that conserve resources, close material cycles, and involve people. Our technology is fully aligned with the objectives of the ESG agenda: Environmental, Social, and Governance - responsibility in every dimension.

Sustainable Production - Locally Rooted, Globally Effective

Each licensed production facility is established where it is needed. IMF AG relies on regional value chains, local materials, and short transport routes. This approach reduces transport emissions and strengthens economic independence. Through partnerships with local companies, we create jobs, knowledge, and stable industrial structures. For us, sustainability means that protection does not need to be imported - it is created locally: responsibly, efficiently, and future-ready.

Resource-Efficient Material Cycles

Our metal foam technology is 100% recyclable and can also be produced from recycled materials. Instead of extracting new raw materials, we utilize existing resources:

Aluminum chips and residual materials from industrial processes are processed, remelted, and reintroduced into a new lifecycle. The result is a closed material loop that saves energy, avoids waste, and preserves natural resources. Every component produced can be fully returned to the process at the end of its service life.

ESG as a Corporate Principle

Sustainability at IMF follows a clear triad:

Environmental - energy efficiency, recycling, and emission reduction.

Social - promotion of local employment, knowledge transfer, and safe working conditions.

Governance - transparency, accountability, and long-term partnerships.

These principles are not just a point on a report - they are our daily practice.

We create technology that protects without burdening - and progress that endures.





Mission & Strategy

**Each generation defines what it protects.
Ours defines how it protects.**

At International Metal Foam AG, we see sustainable technology not as the goal, but as the beginning of a new form of responsibility. Responsibility creates the future and what we protect today should also last tomorrow. We create systems that not only promise stability, but enable it: technology that combines efficiency with mindfulness, progress with responsibility, and innovation with sustainability.

Our mission is to define a world in which technological strength does not come at the expense of resources, but from their respectful use. A world in which protection is not a reactive concept, but a guiding principle. International Metal Foam AG is working for this – with research, partnerships and a clear vision for the future.

Technological Leadership through Responsibility

International Metal Foam AG develops materials that redefine protection. Through research into metallic cellular structures, we create materials that are lighter, more efficient, and more versatile than conventional systems. Metal foam combines energy absorption, vibration damping, thermal stability, and electromagnetic shielding – robust, resource-efficient, and fully recyclable.

Global Networks – Local Strength

IMF empowers partner countries to establish their own production structures. The licensing system combines global technological expertise with local value creation, strengthening industrial sovereignty. This approach creates regional facilities that operate independently, generate employment, and ensure stable supply chains.

Research & Partnerships

Together with leading research institutions such as the Fraunhofer Institute, IMF is developing new generations of metallic cellular structures. The focus lies on higher energy absorption, more precise pore geometries, and adaptive material properties. In this way, innovation becomes a continuous process – making protection smarter and more sustainable.

Fields of Application – Protection in Every Dimension

Metal foam is used wherever safety, weight, and sustainability intersect: in military systems, critical infrastructure, buildings, vehicles, energy facilities, aerospace, and maritime applications. One material – many solutions for the challenges of an interconnected world.

Technology empowers Regions

The IMF licensing system Where responsibility meets economic strength

Sustainable protection begins where technology becomes local strength. The licensing system of International Metal Foam AG enables nations, companies, and industries to produce metal foam protection systems independently - with their own expertise, value creation, and long-term benefit. In this way, security is not created centrally, but regionally - independent, economically efficient, and environmentally sound.

Decentralization as strength

Our licensing system is designed to enable partner countries and companies to establish their own production infrastructure - based on IMF technology. We provide the expertise, support the setup process, and ensure quality through unified standards. This keeps value creation within the country and builds new industrial capabilities. Technology becomes sovereignty.

Sustainability as a structural principle

Short supply routes, regional materials, and closed cycles - the IMF licensing system is built on environmentally conscious processes and recyclable resources. Each production line is designed to reduce emissions and maximize material efficiency. The result is protection that carries responsibility - both ecological and economic.

Value Creation with impact

Licenses create jobs, skills and local stability. Production, maintenance, and further development remains within the country - securing income, strengthening the industrial sector, and fostering technological confidence. As an IMF partner, one benefits not only from the technology but from a long-term business model that combines independence with growth.

Global Licenses

Shared growth which enables protection

Licensing Systems

The licensing system of International Metal Foam AG is more than a business model - it is a strategic instrument that enables technological sovereignty, economic stability, and sustainable development. IMF does not merely transfer technology; it empowers partner nations to design, produce, and further develop it independently. Every license model follows the same principle: creating local strength - globally connected, independent, and responsible.

Overview of License Types

License Type	Description	Benefits for Partners
Country License	Comprehensive national license with exclusive rights for production and distribution within the respective country. The license holder coordinates local partners, develops production structures, and manages market expansion.	• National sovereignty and full control over market strategy • Establishment of an independent industry • Long-term revenue through sub-licenses and regional value creation
Production License	Authorization for local manufacturing of metal foam and protection systems in accordance with IMF standards. Includes technology transfer, training, quality assurance, and production support.	• Development of own manufacturing capacities • Independence from imports • Knowledge transfer and access to cutting-edge technology
Distribution License	Grants the partner the right to market and distribute IMF products within defined regions. Focuses on market development, sales, and customer support, with technical assistance provided by IMF.	• Access to innovative technology • Support through marketing and training • Flexibility in regional sales strategies

Licensing System – More than technology transfer

The modular licensing system of International Metal Foam AG enables the targeted application of both technology and responsibility. Each license type is part of a comprehensive concept that unites technological independence, local value creation, and sustainable development.

Whether at the national, production, or distribution level, International Metal Foam AG ensures that knowledge, quality, and control remain anchored with partners in their respective countries. This approach not only transfers technology but also generates economic strength - through regional employment, independent industries, and short supply chains.

The system is built on decentralization as a strategic principle. Every country utilizing an IMF license develops its own expertise - independent, resource-efficient, yet integrated into a global network of technological excellence. In this way, a worldwide alliance of locally managed production and distribution structures emerges, all operating on a unified and certified foundation.

This combination of global knowledge and local responsibility turns the licensing system into an instrument of sustainable economic development. Protection is thus not managed centrally, but lived decentrally - transparent, scalable, and built for long-term stability.

Industrial Implementation System

Precision in every process

The production of metal foam follows clear principles: control, repeatability, and efficiency. With furnace systems from XERION, International Metal Foam AG offers a proven infrastructure that integrates seamlessly into existing manufacturing environments. Standardized systems in three sizes allow easy scalability - from pilot facilities to full-scale industrial production.

Each unit is modular, energy-efficient, and low-maintenance. Precise control ensures consistent quality and reproducible results - regardless of production location or volume. This makes the implementation of new protection systems predictable, manageable, and economically viable.

IMF provides the expertise, XERION delivers the manufacturing solution - together they create the industrial foundation that turns protection technology into tangible reality.



XERION furnace systems are available in three sizes - with working widths from 1,000 to 3,000 mm and working depths from 2,500 to 5,000 mm. Depending on the configuration, the heating capacity ranges between 600 kW and 3,200 kW, with system weights from 3,700 kg to 13,500 kg. Thanks to their modular design, the systems can be individually configured and adapted to different production environments. All units are designed for continuous operation, are energy-efficient, low-maintenance, and can be integrated into existing manufacturing processes within just a few days.

This enables production capacities to be established, expanded, or modernized quickly - with maximum precision and minimal effort.

Different Furnace Sizes

5m x 3m

6m x 3m

9m x 5m

Security is more than technology – it is a commitment

A commitment that International Metal Foam AG fulfills with conviction and responsibility. In a world where boundaries shift and systems grow vulnerable, protection requires more than materials – it requires mindset, knowledge, and reliability.

IMF AG unites research, manufacturing, and responsibility in pursuit of one shared goal: to create protection systems that safeguard people, structures, and the future alike. Every innovation, every project, and every license is part of a greater whole – a network built on competence, trust, and collective strength. This creates not only technological performance, but also social value: security that lasts because it has been understood.

We believe that progress can only last when it protects – and that protection is only effective when it is shared. That is why IMF AG develops not for markets, but for people, for nations, for stability. What we create is more than metal foam – it is the foundation for a secure, independent, and responsible future.



Technology with Purpose

Every development begins with the question of the value it creates. IMF combines innovation with meaning, ensuring that technological strength is never an end in itself but a means to provide real protection. This is how lasting progress is created.



Partnership as a Principle

Sustainable security is built through collaboration. IMF works with governments, companies, and research institutions as equals – open, reliable, and solution-oriented. Together, we create systems that achieve more than the sum of their parts.



Sovereignty through Knowledge Transfer

True strength lies in self-determination. Through licensing models, training, and the targeted development of local expertise, a network of partners emerges – capable of acting independently and growing sustainably.



Future as a Commitment

What we protect today shapes tomorrow. IMF embraces this responsibility with technology that endures – recyclable, adaptable, and efficient. Because protection is not a condition, but a promise to the future.





We create structures that make security possible - worldwide.

Security is not a coincidence; it is the result of mindset, knowledge, and responsibility. International Metal Foam AG stands for the commitment to redefine protection - not as a reaction, but as the foundation of stability.

Every development, every project, and every partnership pursues the same goal: to create technology that earns trust and endures.

Because true progress is not measured by what is built, but by what is preserved.

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