



JOHN F. ERVIN AND THE INVENTION OF STEEL SHOT: WHEN WATER CREATED MILLIONS OF INDUSTRIAL SPHERES

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It is fascinating to listen to Manuel Forn, Country Manager for Spain and Portugal and Sales Manager for Ervin in South America, at Ervin Office Ibérica. Today we are talking to him, and it is exciting to see the passion with which he talks to us, not only about the product he sells, but also about the philosophy and history of a century-old company like Ervin.

I have read that Ervin is a company with a long history.

You read that right! The company was founded in 1920.

105 years! And has it always been in the hands of the same family?

Exactly. The company is now in its fifth generation. After John Pearson sadly passed away at

the age of 75 in September, his son Trent Pearson took over all responsibilities and he will lead Ervin with his extensive experience and deep understanding of the market into the future.

How long have you been working with the Ervin family?

For 14 years now. Back then, I was working for a company

that manufactured shot blasting machines, and we were also customers of Ervin. My arrival at the company was, in fact, quite curious.

Tell us, tell us...

A friend told me about a good opportunity at Ervin. Two hours after I sent my application I received a phone call. I was the

only person who had applied for the position with direct experience in the sector.

You hit the ground running!

Yes, the fact that our sector is so specific helped a lot.

Shall we talk a little about the origins of the company and the invention of its founder?

Of course. In 1920, Mr John F. Ervin founded a 'normal and run-of-the-mill' foundry. In this type of workshop, they worked with sand moulds: molten metal was poured into the mould, left to cool, and then the sand had to be removed to obtain the piece.

The real problem lay in this last step: removing the sand was a manual, slow and very laborious process.

And that's where the innovative idea came in.

Exactly. Mr John F. Ervin came up with the idea of melting steel and hitting it with a jet of water. The impact caused an explosion of millions of tiny spheres. The process he invented is called atomisation and it was patented in 1939. This is how steel shot was born as an industrial abrasive.

Is the water atomisation process applied to all shot?

It is applied to many, but not all. For example, stainless steel shot is manufactured using a similar process, but instead of water, air, liquid nitrogen or other methods are used. The basic concept is the same.

What did that invention mean, beyond a logical advance for Mr Ervin's company?

It was a decisive change. The sand used at the time con-



MR JOHN F. ERVIN CAME UP WITH THE IDEA OF MELTING STEEL AND IMPACTING IT WITH A JET OF WATER. THE COLLISION CAUSED AN EXPLOSION OF MILLIONS OF TINY SPHERES. THIS PROCESS IS CALLED ATOMISATION, AND WAS PATENTED IN 1939.

tained silicon and caused silicosis, a very serious disease also linked to cancer and other ailments. For that reason, it was banned years ago. Today, much safer methods are used, all thanks to the shot atomisation system.

How does the story continue?

At first, Mr Ervin used the shot in his own foundry, but he soon realised that it worked so well that he decided to produce it exclusively to sell to other foundries.

Where does shot blasting media come from?

The raw material is scrap steel.

We melt it down and transform it into small particles through the process of atomisation. It is a 100% recycled material: re-using scrap metal to produce it.

They have been working sustainably for over 100 years!

105 years ago, John F. Ervin, in addition to having the visionary idea of producing shot from recycled steel scrap, managed to improve productivity, reduce resource consumption and decrease waste, laying the foundations for a true circular economy. That spirit of 'doing more with less' lives on in his descendants today.



JOHN F. ERVIN, IN ADDITION TO HAVING THE VISIONARY IDEA OF PRODUCING SHOT BLASTING MEDIA FROM RECYCLED STEEL SCRAP, MANAGED TO IMPROVE PRODUCTIVITY, REDUCE RESOURCE CONSUMPTION AND WASTE, AND LAY THE FOUNDATIONS FOR A TRUE CIRCULAR ECONOMY.

It is admirable that a family business preserves its spirit... and even more so when it combines it with sustainability.

Yes, sustainability is one of our fundamental pillars. At Ervin, we work to reduce greenhouse gas emissions, both direct emissions and those generated throughout the entire value chain. Our efforts are focused on reducing CO and electricity consumption. One specific example is the wind tower installed at our plant in Germany, which has been supplying clean energy to the factory since early 2024. And, looking to the future, we have set our-

selves an ambitious goal: to achieve zero emissions by 2030.

Quite a challenge!

We are strongly committed to renewable energies, and thanks to our collaboration with the Central German Hydrogen Network, we will be able to replace natural gas with hydrogen from 2027 onwards. In addition, for more than 100

years we have been supplying our product in recyclable paper bags, we also promote the use of electric vehicles, we prioritise video conferencing to reduce travel and we have a digitisation programme to reduce paper use.

Following the history of the company, I understand that Mr Ervin not only invented and patented the shot atomisation system.

In 1946, he participated in the development of the first industry standard: SAE 444 in the United States. In Europe, this standard is similar to ISO. Thanks to this, consistent quality is guaranteed by regulating the size, shape of the sphere, chemical composition, density, and hardness of the shot.

Throughout all these years, there has been time to evolve. What milestones would you highlight in the history of the company?

Since its foundation, Ervin has continued to grow and consolidate its position as a benchmark in the sector. Another key milestone was in 1947, with the invention of the Ervin Test Machine, a pioneering machine – unique in the world – used to measure the durability of shot. So effective and simple that even our competitors use it, it has become a quality standard for the entire industry.

Apart from growing in North America Ervin has had a presence in the United Kingdom

LOOKING TO THE FUTURE, WE HAVE SET OURSELVES AN AMBITIOUS GOAL: TO ACHIEVE ZERO EMISSIONS BY 2030.

and now in Germany. How did that process unfold?

After opening its first plant in Adrian, Michigan in 1968 and expanding in North America in 1977 with a factory in Pennsylvania, Ervin made the leap to Europe in 1992 with a plant in the United Kingdom. In 2008, it moved production to Germany, specialising in stainless steel shot, and in 2014 it opened the modern Amasteel plant in Glaubitz, which has replaced the UK plant.

The journey continued in 2016 with the opening of the corporate headquarters in Berlin, consolidating its international character.

In your experience, does working in a company the size of Ervin, but with a family spirit, have advantages or disadvantages?

For me, there are only advantages. The best thing about working in our family business is that we have a relationship to our Management. I feel that my work is rewarded, and we speak honestly and respect each other. This enables a high level of flexibility and fast decision-making what I really enjoy.

Do the owners know all the members of staff?

Yes, absolutely. I've been with the company for 14 years and, although the sales meetings are now annual, the direct contact is still there. Trent Pearson, our president, accompanied me on my first visits to meet the staff, and today the owner still comes in person. It's a company that takes great care of its employees.

Can you give me an example?

During Covid, the day after the

THE BEST THING ABOUT WORKING IN A FAMILY BUSINESS IS THE DIRECT CONTACT.

crisis was declared, they sent a letter to all employees saying: „Stay at home, stay calm, you have 100% of your salary guaranteed and don't worry about anything.“ That's not usual.

I imagine that kind of gesture makes a difference and encourages commitment...

Without a doubt, all employees are involved and work in a conscious and responsible manner. The most important thing is the good atmosphere: between teams and departments, for example in the sales department, sharing technical information, references and customers. It is an environment of constant cooperation. Because in addition to the product, service is fundamental...

I understand...

Ervin not only sells shot blasting media, but also offers technical

service, included in the price. Keeping up to date with materials and technical solutions is part of the way we work. I work closely with my colleague Iago Otero, the technician, who joined six months before me. We have been working side by side for years, and that coordination is reflected at all levels of our work.

From what you say, I can see that technical service is key to your work.

Yes, absolutely. Our goal is for them to use less shot and to shot blast in less time.

Our mission is to help our customers improve their shot blasting processes. After each visit, we write a report with photos and recommendations to optimise their process. This service is included in the price of the shot purchase.



Are there any recent product developments?

Yes, in 2022 we launched Amapure, an innovative mineral additive that is part of our sustainability policy. When shot blasting, grease, additives or even moisture sometimes appear on the parts. Grease is the great enemy of shot blasting, because it creates a film that causes slippage and reduces performance. AMAPURE is added to the shot and absorbs that grease. It is then removed by the air separator alone, without the need for additional work.

What advantages does it offer?

Many: it improves the performance of the machine and the filter, extends the service life of the shot, reduces waste and consumption, promotes the circular economy, avoids extra cleaning processes and also reduces the risk of fire.

ERVIN NOT ONLY SELLS SHOT BLASTING MEDIA, BUT ALSO OFFERS TECHNICAL SERVICE INCLUDED IN THE PRICE. KEEPING UP TO DATE WITH MATERIALS AND TECHNICAL SOLUTIONS IS PART OF HOW WE WORK.

To which sectors do you sell the shot?

To many, some of them quite surprising. Every day I discover new customers and applications. For example, in the naval sector: all ships are shot blasted on the outside before being painted. The shot blasting removes the rust and leaves the right amount of roughness for the paint to adhere to. In fact, we work a lot with paint manufacturers, because depending

on the type of shot, we can adjust the roughness and improve adhesion.

Is it also used in construction?

Yes, of course. All beams used in construction undergo a shot blasting process and are then primed to prevent corrosion.

And in the automotive industry?

It is one of the key sectors. Many of the parts in a car undergo this process: engine blocks, brake discs, shock absorbers, cylinder heads, crankshafts, among many others.

How does Ervin maintain its shot as the market leader in quality?

We never stop researching. Our steel and stainless steel shot stands out for its quality. The key is in the process: we temper the spheres with water, which guarantees a more uniform metallurgical structure, compared to air tempering.

What is Ervin's relationship with AIAS?

We became partners about two years ago. I already knew AIAS from before, because I worked for a company that manufactured shot blasting machines and I used to meet Elvira and Àngels at trade fairs.

Do you participate in international trade fairs?

We are visiting big international trade fairs, but have also started a new program organizing

blasting and painting seminars in many countries all over Europe. The purpose is to strengthen the relationship to our customers and sharing knowledge. We are also attending at smaller local trade fairs, corrosion conferences and seminars, because we want to be more visible. And that's where I got to know AIAS better.

A meeting we celebrate!

We are too. We are very happy that AIAS provides us with valuable information that would otherwise be difficult to access. Thanks to the association, we have access to conferences, regulations, technical issues and trade fairs.

Do you think the Ervin family will like this interview?

I'm sure they will. At Ervin, they allow a lot of initiative; we have the support of the marketing team, but with great flexibility. The idea is to raise awareness of the company, its products, history and projects.



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